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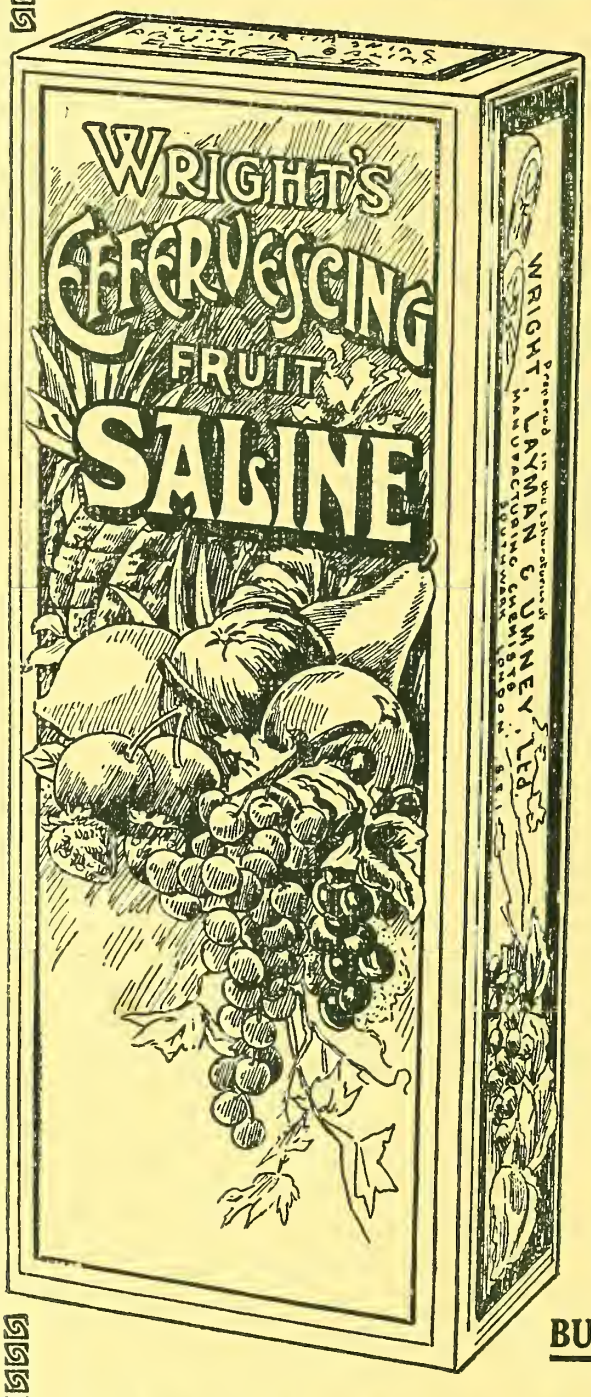
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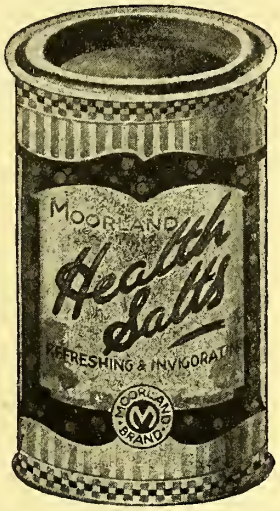
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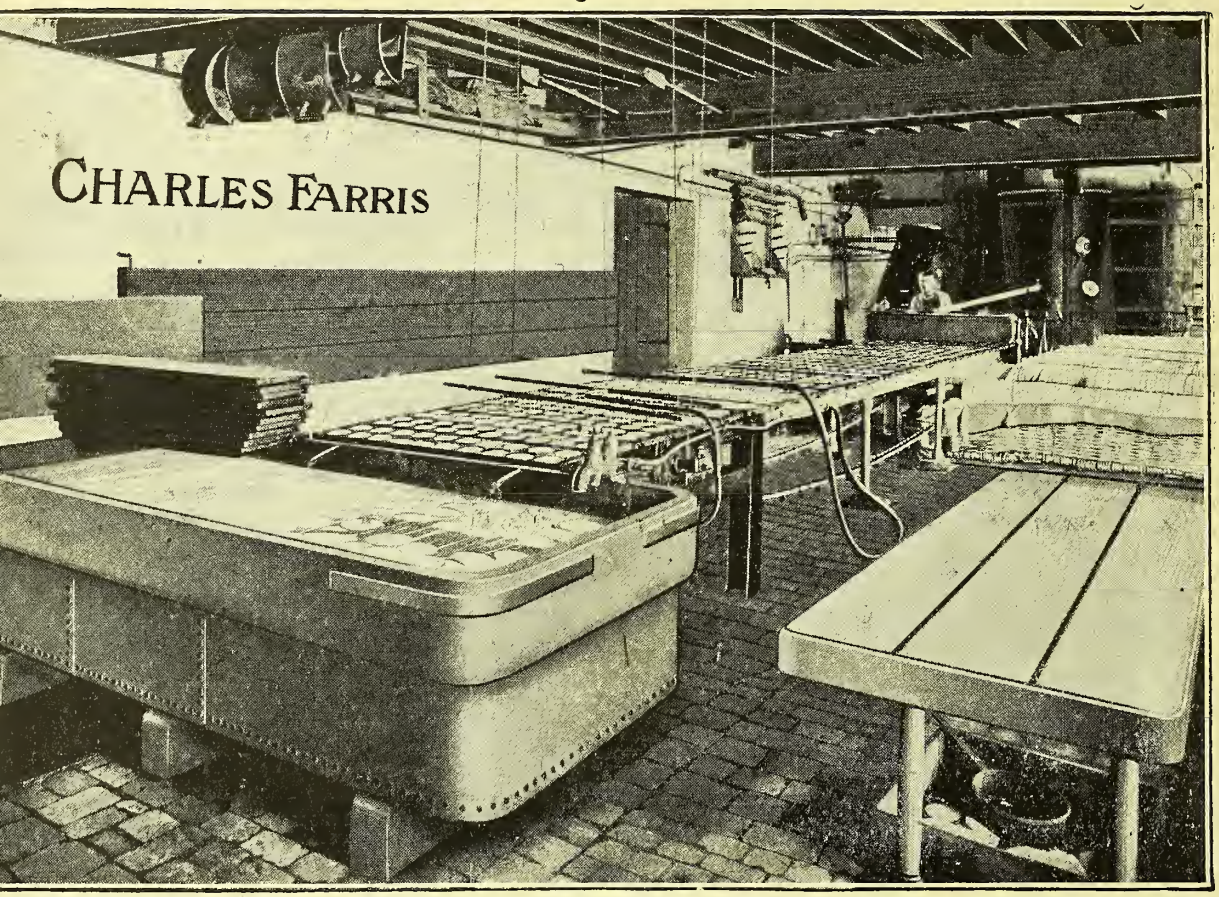
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June 25, 1921 No. 506

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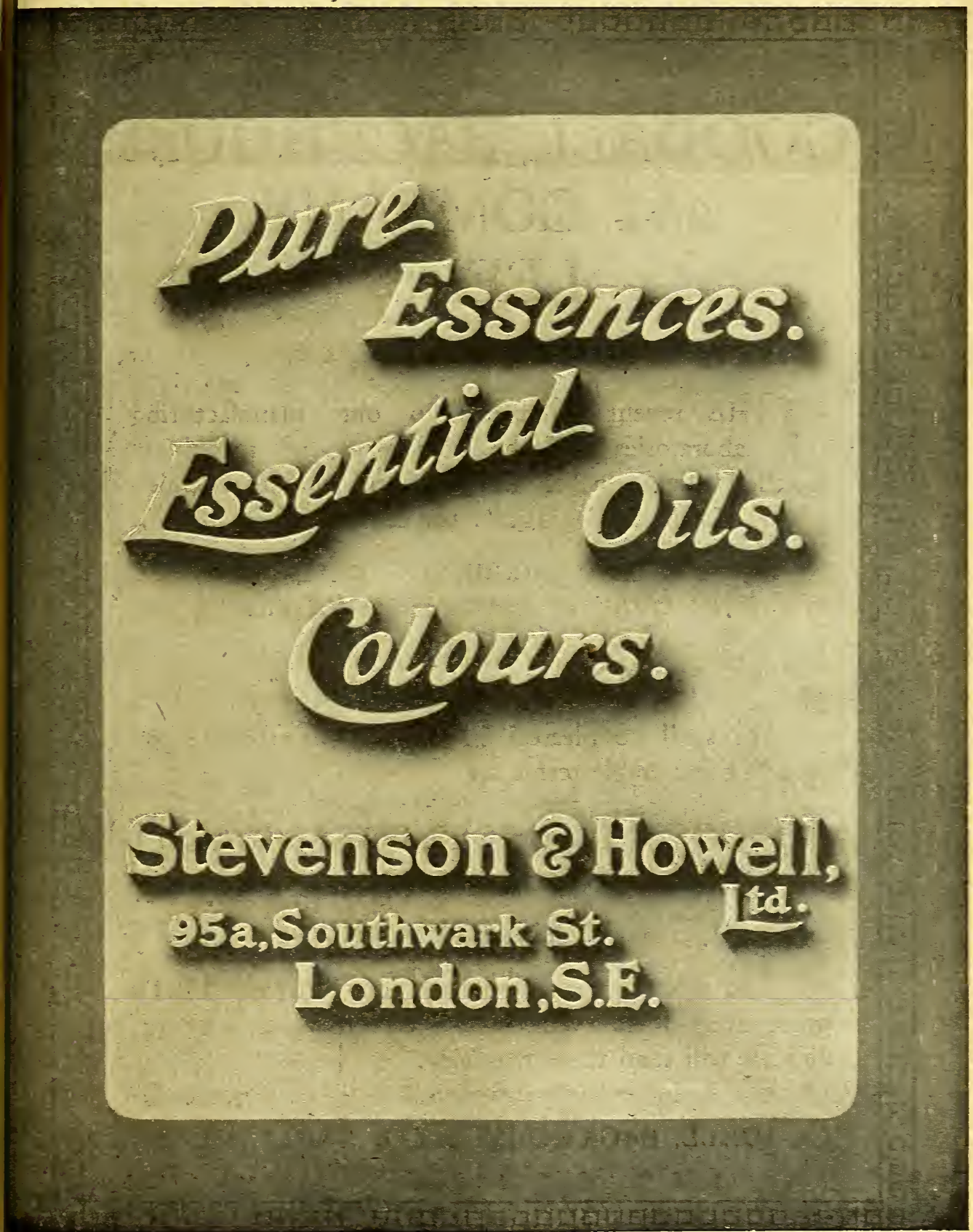
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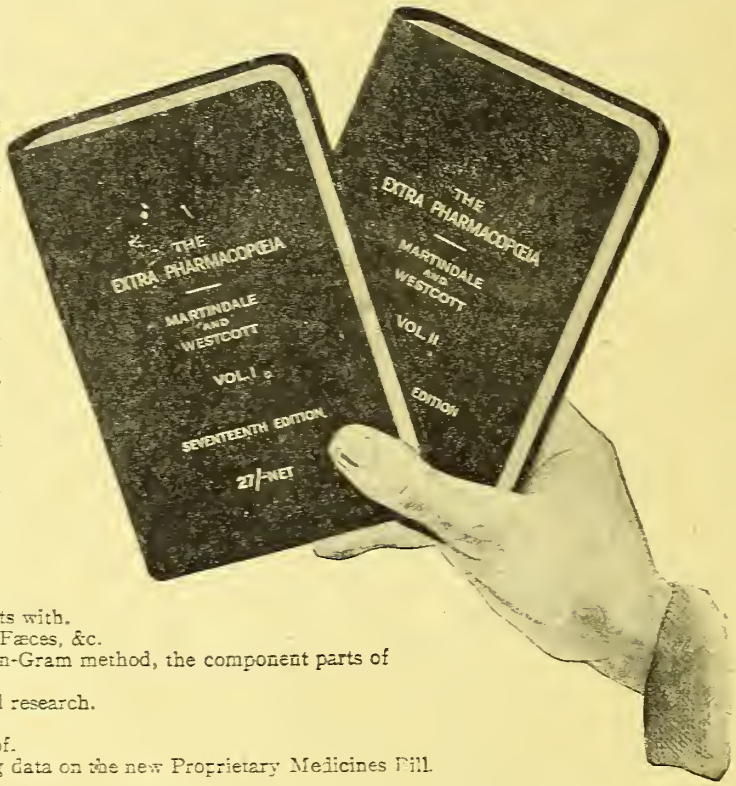
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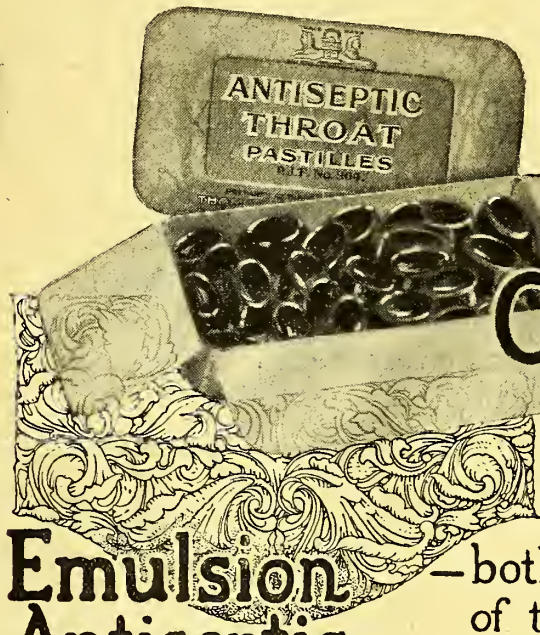




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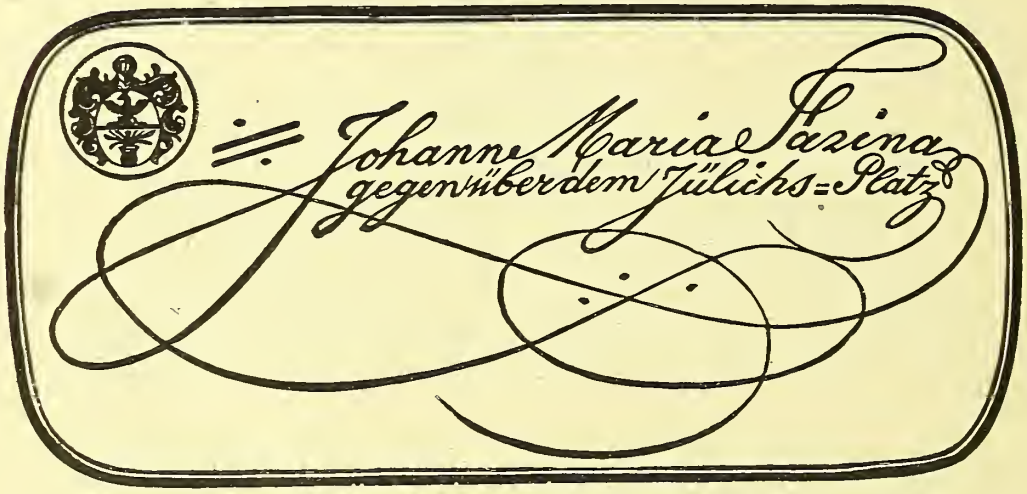
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PURE TOILET and MEDICATED SOAPS

of Distinctive Manufacture, that have won Highest Awards at International Exhibitions, and more particularly still

RECEIVE PUBLIC FAVOUR

INQUIRE OF

"COOK'S" **Soap Specialists, LONDON, E.3.**

Manufacturers of Pure Toilet and Household Soaps, Disinfectants & Medicated Preparations & Horticultural Sprays.

SALES PROMOTION
and Discriminate Buying

are closely associated—therefore increase
your sales by carefully selecting

SELLING LINES

FOR THE TOILET—

RIVERA VICTORY BOUQUET TOILET SOAP

FOR SMOOTH SHAVING—

SOLACE SOLIDIFIED CREAM SHAVING STICK

FOR THE TEETH (Artificial Denture)—

SOAP "BISCUIT"

SOMETHING QUITE ORIGINAL.

CHEMIST'S OWN BRAND SOAPS.

DISINFECTANT FLUIDS & POWDERS

SEND FOR FULL LISTS TO

EDWARD COOK & CO., LTD., BOW, LONDON, E. 3

PAPIER POUDRÉ

Trade Marks



"LEHCARESOR."

Papier Poudré

British Made Goods.

Beware of Spurious Imitations

Note our Trade Marks.

Registered



PAPIER POUDRÉ, Ltd.,
46 Baker St., Portman Sq., London, W.1.
and in Paris.

WHITE, ROSE or RACHEL Tints, 4d., 6d., 8d. and 1/4 size Booklets, 2/8, 3/9, 5/- and 10/- per dozen net, respectively.

SUNBURN TINT, 8d. & 1/4 sizes only, 5/- & 10/- per doz. net.

REFILLS to Mirror Cases in White, Rose or Rachel ... ... **2/8** per doz. net.
8d. SHAVING PADS, for Use after Shaving (unscented). White only ... **5/-** per doz. net.

POPPŒA ROUGE

A most popular line. (Regd.)

Made in booklet form. One size only, viz. **1/–**, at **8/–** per dozen net. **Mirror Cases 1/4** at **10/–** per doz. **Refills** for same **6d.**, at **3/9** per doz. net.

NOTICE TO THE TRADE.—As supplies of material have now reached a state of normal condition we are in the position of being able to execute all orders.

PAPIER POUDRÉ, Ltd., 46 BAKER STREET, PORTMAN SQ., **LONDON, W.1**

PARFUMERIE PARIS

BOURJOIS

Manufacturers of the most exquisite

Eau de Cologne

also of the

FAMOUS

Poudre de Riz

DE

JAVA

AND

"ASHES OF ROSES"

Also Powders, Solid Powders, Rouges, Eyebrow Pencils, Lip Salves, Soaps, Brilliantines, Perfumes

The celebrated series,

"MANON LESCAUT"

of world-wide popularity.



No. 792



No. 890



No. 45



No. 2



No. 83



No. 548 bis



No. 545 bis



No. 835

A. BOURJOIS & Cie, Ltd., 66 Carter Lane, London, E.C. 4.

FACTORY—PANTIN (FRANCE).

Everybody is talking about it!

SILKODONO
for the HAIR & SCALP

The Great Hair Remedy Success!

Big Advts. now Appearing before 5,000,000 Readers

This is a record-breaking week for Silkodono, and a week of huge profits for the Chemists who are selling it. Our Big Space Advertising has started, and thousands are sending for Samples, while Chemists are ordering supplies in larger quantities than ever before. *And this is only the beginning* of a new and powerful effort to bring Silkodono into every home in the United Kingdom. However heavy the demand for Silkodono to-day, it must inevitably be heavier next week, and the next, and the next, for this great Advertising Drive will continue—the big Advertisements will keep appearing until we are satisfied that every sufferer from Hair Troubles in this Country has discovered and proved the wonderful curative and beautifying properties of Silkodono.

Gigantic Distribution of FREE SAMPLES

Silkodono is now sold by Chemists in every city, town, or village in Great Britain—but for every single bottle sold last week there will be six sold next week, and thus the demand will grow week after week, bringing increased turnover and profits to these enterprising Chemists who are handling it. The inducement therefore to put Silkodono on your counter and in your window is now greater than ever. Someone must meet the demand for Silkodono in *your* neighbourhood. You or your competitor, which shall it be? Just glance at our terms and note the splendid profits we offer. In addition, we send you free of charge Beautiful Showcards, Dummy Cartons, Booklets on Silkodono Hair Culture, and a supply of attractive Handbills printed with your own name and address.

Wholesale Prices.—**1/6** size, **12/-** per doz. **2/6** size, **20/-** per doz. **4/6** size, **36/-** per doz.

Send a Trial Order to-day—even if only for ½-dozen.

What are YOU doing about it?

SILKS TOILET CO., 8-9 RED LION STREET, HOLBORN, LONDON, W.C. 1. Telephone: Chancery 8095

Orisal Regd.

The Original & Successful Remedy for PYORRHŒA
Prescribed by the Dental Profession.

PRICES.

	Wholesale (including Government Duty)	Retail
Dental Paste	22/- per doz.	6d. 2/6 per tube
Mouth Wash	44/- & 27/- ,,	,, 1/- 5/- & 3/- ,, bottle
Special Brush	24/- per doz.	2/6 each
Dental Tooth Powder (Large Size)	18/- ,,	2/- ,,

Of Wholesalers, or direct from
ORISAL Ltd., 77 George St., Portman Sq., W.1.
Telephone No.: Mayfair 2899.

GENUINE AUTO-STROP RAZORS

Genuine GILLETTE RAZORS

Best Triple Silver-plated sets in Nickel, Black and Khaki Cases.

4 pieces assorted for **£2 2 0**

H. A. CANNON, Red Lion House, Red Lion Court, Fleet Street, E.C. 4.

We are now manufacturing

Containers & Cases

of various styles in

Imitation Gold

which easily surpasses Aluminium for

BEAUTIFUL APPEARANCE

The Prices are just as attractive.

Our exhibition of these new imitation gold boxes at the Chemists' Exhibition was a great success. A sample will be sent free to any interested wholesaler or manufacturer.

FRANK BUCKLER, Ltd.

CASTLE WORKS,
Mount Pleasant Road, Tottenham,
London, N. 17.

"CUTEX"

Manicure Preparations



No.		P.A.T.A.	
1.	"Cutex" the Ideal Cuticle Remover, Small	18/-	2/-
2.	,, ,, ,, Large	36/-	4/-
4.	,, Nail White ...	18/-	2/-
5.	,, ,, Polish Cake, White	18/-	2/-
6.	,, ,, ,, Pink	18/-	2/-
7.	,, ,, Trial Size	5/6	7½d.
22.	,, Nail Polish Stick, in metal tube	13/6	1/6
8.	,, ,, Powder	13/6	1/6
9.	,, Polishing Paste, Pink	18/-	2/-
10.	,, ,, ,, Plain	18/-	2/-
11.	,, Liquid Nail Enamel	22/6	2/6
13.	,, Cuticle Comfort ...	18/-	2/-
14.	,, Nail Bleach Powder	18/-	2/-
15.	,, ,, Rouge ...	18/-	2/-
16.	,, Compact Manicure Set	27/-	3/-
17.	,, Travelling ,, ,,	84/-	9/6
18.	,, Boudoir ,, ,,	168/-	19/-
31.	,, Cold Cream ...	18/-	2/-

Henry C. Quelch & Co.
4 & 5 Ludgate Sq., London, E.C.4

SOLE AGENTS FOR THE
Northam Warren Corporation, Ltd.
Montreal and New York.

IRISH AGENT:
K. O'Sullivan, 31 Wicklow Street, Dublin,
where a large range of samples may be seen.



DEARBORN

LIMITED

37 Gray's Inn Road, LONDON, W.C.

Toilet Specialities.

	Price per doz. to Retailer.	Selling Price P.A.T.A.
PILENTA SOAP - A complexion soap.	10/-	1/-
PROLACTUM - - For the lips.	10/-	1/-
PARSIDIUM JELLY For wrinkles.	10/-	1/-
ALLACITE of ORANGE BLOSSOM A dressing cream.	22/6	2/6
BORANIUM - - A hair tonic.	22/6	2/6
CLEMINITE - - For a face lotion.	22/6	2/6
COLLIANDUM - - For a face tint.	22/6	2/6
PERGOL - - - A deodorant.	22/6	2/6
STALLAX - - - For a shampoo.	22/6	2/6
JETTALINE - - For clearing the skin.	31/6	3/6
PHEMINOL - - A depilatory.	36/-	4/-
MENNALINE - - For the eyelashes.	36/-	4/-
MERCOLIZED WAX A face cream.	31/6	3/6
STYMOL - - - For oily complexions and blackheads.	36/-	4/-
BARSYDE - - Dandruff eradicator.	22/6	2/6
TAMMALITE - - For grey or faded hair.	22/6	2/6
LIQUID PERGOL - To check excessive perspiration locally.	31/6	3/6
BICROLIUM - - For whitening the hands.	22/6	2/6
HARAPOSA - - Nut oil shampoo.	22/6	2/6

STOCKED BY ALL WHOLESALE HOUSES

COLONIAL DEPOTS AND AGENCIES.

AUSTRALIA:
ALL WHOLESALERS, and
DEARBORN, Ltd., Grace House, Clarence Street, Sydney.

SOUTH AFRICA:
LENNON, Ltd.
SIVE BROS. & KARNOVSKY, Ltd. (Johannesburg)

INDIA:
KEMP & CO., Ltd. (Bombay)
THE INTERNATIONAL TRADING CO., Princess Street (Bombay).
R. MACLURE (Madras)
SMITH, STANISTREET & CO. (Calcutta).
MEHTA BROS. (Calcutta)
JAMNADAS BROS. (Bombay)

NEW ZEALAND:
SHARLAND & CO., Ltd. (Auckland & Wellington)

SOUTH AMERICA:
DEARBORN, Ltd., Calla Salta 264, Buenos Aires.

You cannot deliberately ignore the Cheapest Market if you are a keen Buyer ! ! !

Therefore, why not let Us quote You ?

We are actual manufacturers of all kinds of Powder Puffs in Down or Wool, and can guarantee to give you satisfaction both as regards High Quality and Prices.
Our Prices, which defy competition, are a consequence of keen buying in the right markets, the benefit of which we accord to our customers.
Therefore our regular Prices are the lowest **always** and do not stand cutting ! ! !

Your enquiries welcomed.

We also SPECIALISE in

MANICURE REQUISITES

NAIL POLISHERS FAVEUR RIBBONS

PERFUME LABELS, "Le Relief" Paris.

We can show you the latest Paris Creations.

DRUGGIST SUNDRIES, etc.

Compact Powder, Nail Crayon and Paste, Vanishing Cream and Skin Food, Perfumery.

In Bulk or Packed ready for Export.

Samples and detailed Price Lists are sent upon request to **WHOLESALERS and SHIPPERS ONLY.**
NO RETAIL FIRMS WILL BE SUPPLIED.

J. R. BOURLAT, GOES & Co.

(Incorporating Wm. A. J. SHARPLES)

21 Clarendon Rd., Holland Park, London, W.11

Telephone: PARK 2592.

Laboratories: **4 Beatrice Road, Stroud Green, N.4**

LONDON PARIS BRUXELLES

SILVERY

Vanishing CREAM.

We can offer this excellent preparation in bulk upon very special terms.

It is eminently suitable for packing as an own-name speciality and is sure to command a ready sale.

HALL FORSTER & Co., Ltd.

Manufacturing Chemists,

Peel Buildings, Temple St.

NEWCASTLE-ON-TYNE.

North, South, East and West.
Which is the Powder the Public request ?
North, South, East and West.
Which is the Powder that pays you the best ?

See page 55.

Telegrams—"Porous London."
Codes—A B C, 5th Edition.
Telephone—City 6910 (2 lines).

104 & 106 GOLDEN LANE,
LONDON, E.C. 1.

DEAR SIR,

Re Antiseptic Toilet and Baby Powder, J. & J.

To gain the confidence of your customers is the keynote to SUCCESS. You are SAFE in recommending this powder; it has many rivals but no equal. BEST FOR TOILET, BEST FOR NURSERY. It will bring customers back to your Pharmacy over and over again for more, the QUALITY compels this, and that is what is wanted. Moreover, the customers' presence offers the opportunity to sell them something else.

Yours faithfully,

JOHN TIMPSON & CO., LTD.
Agents for JOHNSON & JOHNSON.



The PEEKABO Kid

wakens up to make his debut
as the Fairy Soap Seller

Remembering
his appointment
to make known
his wonderful
PEEKABO Soap



he hastens on
his way dancing
with joy at the
knowledge of his
happy tidings to
all Baby mortals



and makes his first call
with beaming pride
introducing to Chemists

MIDGLEY'S
PEEKABO Baby Soap
The Acme of Purity

for Prices and Window Display terms write
EVANS SONS LESCHER & WEBB Ltd Liverpool and London

Mosquitoes!

FAMOUS WOMAN EXPLORER'S TRIBUTE TO CUTOLAV MEDICATED SOAP.

The following is an extract from a letter by Mrs. CHARLOTTE CAMERON, O.B.E., F.R.G.S., the famous Explorer and Novelist. Mrs. CAMERON'S 27,000 miles jaunt through unknown Africa is one of many trips to the out-of-the-way places of the earth. Writing of one stage of her present round-the-world trip, she says:—

"Travelling across the hundreds of miles of the Mississippi and Louisiana swamps, viewing the scenery from the Observation Car, I found I was offering a treat to myriads of Mosquitoes. I was bitten in a dozen places through thin silk stockings. It was annoying. I had been similarly troubled on the West Coast of Africa, and on my long jaunt on the Yukon River. I then remembered your cakes of CUTOLĀV MEDICATED SOAP, and having applied the lather of this Soap to the numerous bites, had no further annoyance for the remainder of the journey. The inflammation subsided, the Mosquitoes troubled me no more."

Charlotte Cameron



In the light of the above unsolicited comment **you** can honestly recommend CUTOLĀV during the Mosquito season. It would be rather a good plan to write to us for a sample and particulars. We shall be happy to oblige.

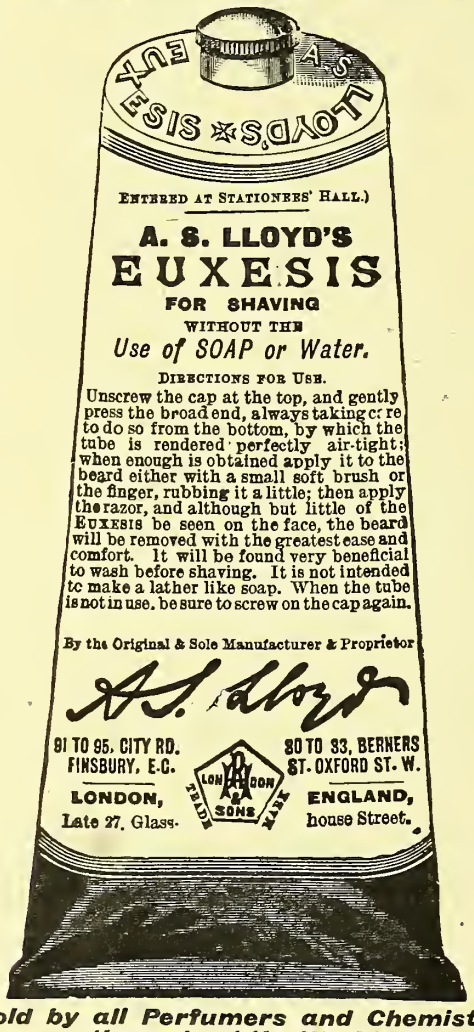
PRICE'S
BATTERSEA - S.W.11.

"Skeeters!"

A. S. LLOYD'S EUXESIS

(THE GENUINE).

For Shaving without Soap, Water, or Brush.



Sold by all Perfumers and Chemists throughout the World.

R. HOVENDEN & SONS having purchased, under an administration suit, the Business of the late A. S. LLOYD, with the Receipt, Trade-Mark, and Goodwill of the celebrated Euxesis, the Trade are cautioned that the original and genuine Euxesis is now manufactured at our Factory ONLY, and may be obtained at either of our Warehouses.

PRICES ON APPLICATION.

NOTICE.—THE GENUINE A. S. LLOYD'S EUXESIS bears a label printed in BLACK only on a Yellow ground, with our Trade Mark at the bottom, as Illustration.

Proprietors: R. HOVENDEN & SONS, LTD.,

LONDON: 28–33 Berners Street, W.; and 89–95 City Road, E.C.

HAVE YOU GOT IT?

FREE

London's leading Illustrated List of

TOILET GOODS

AN OBJECT LESSON TO ANY CHEMIST WHO HAS NOT SEEN IT

Send us a postcard, we'll do the rest!

Jules Frères Ltd.
154 Walworth Road, London, S.E. 17.
Largest Packers in the U.K.

NEW-SKIN

Trade Mark.

KNOWN ALL OVER THE WORLD AS THE STANDARD LIQUID PLASTER.

TRADE PRICES.

Retail Price.	Trade Price.
10½d. Pocket Size...	8 5 doz.
2/- Medium Size	19/2 ,,
3/- Physician's Size	28/9½ ,,

£3 and up Carriage paid.

Order through your wholesaler or direct.

Sole Agent for British Isles and Colonies—

J. E. GARRATT,
96 Southwark Street, London, S.E.1.

A. S. LLOYD'S EUXESIS

For Shaving without Soap, Water, or Brush.

CAUTION to the TRADE

Labels on the genuine EUXESIS not only bear signature of A. S. Lloyd in Black Ink, but also "Prepared only by his Widow and signature of 'Aimee Lloyd'" in RED.



Sole Manufacturers and Proprietors :

AIMÉE LLOYD & CO.,

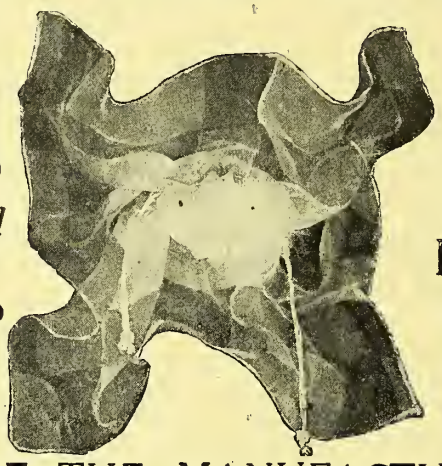
23 PANTON STREET
(Formerly named SPUR STREET),

HAYMARKET, LONDON, S.W.

N.B.—When ordering from Wholesale Houses write LLOYD'S EUXESIS (WIDOW'S).

POWDER PUFFS!

STAND
No. 343 (Gallery)
London Fair and Market
(AGRICULTURAL HALL)
July 4–15.
Tickets on request.



ART,
QUALITY &
LOW PRICE!
The Secrets of our Success.

WE ***ARE*** THE MANUFACTURERS!!
(WHOLESALE and SHIPPING).
Visit our Exhibit, and we will prove to you there is ART in the making of Powder Puffs.
WILLIAMSON BROS., 16 SOUTHWARK ST. — LONDON, S.E. 1. — *Phone:* HOP 3419



Mr. Geo. R. Sims' "Tatcho" and "Tatcho-tone."
A big vigorous, impressive advertising campaign, covering the whole of the British Isles, is now being pursued. A vastly increased volume of business is inevitable. Generous profit to the trade has been arranged.

TATCHO
THE HAIR GROWER
Price 2/9
Wholesale: **26/-** PER DOZEN.

TATCHO-TONE
FOR GREY HAIR
Price 4/6
Wholesale: **42/-** PER DOZEN.

GEO. R. SIMS' HAIR RESTORER CO.
5 Great Queen St., Kingsway, LONDON, W.C.2.

PUSHFUL CHEMISTS

Who are desirous of making a
PROFIT of 48 PER CENT.
on a quick-selling proprietary article are invited to write to—
The SPA TOILET CO.
(*Branch of the County Chemicol Co*) LEAMINGTON SPA
FOR FULL PARTICULARS.
We select one Chemist for one town or district of large town. *Write us TO-DAY.*



Seven Spas Soap

For all Rheumatic Complaints.
Recommended by the Medical Profession.
Sold by all Stores and Chemists.
Price **1s. 6d.**
Seven Spas Proprietary Co., Ltd.
3-9 Heddon Street - Regent Street, W. 1.
Sole Agents—
Butler & Crispe, Clerkenwell Road, London, E.C.

Profitable Specialities

which sell on their merits.

Frozoclone



The Original Solid Eau de Cologne.

Refreshing to the forehead, and Invaluable in a heated atmosphere or when motoring.

P.A.T.A. Min. Retail 3/6 Wholesale 32/-

Special Terms for Bonded Shipments of 4 gross minimum.

SOLID ENGLISH LAVENDER

Same Style and Prices.

Analax



The Ideal Fruity Laxative in Pastille Form. Delicious, Reliable, Effective, Steady Seller.

Minimum Retail 2/3. Wholesale 21/-

REDUCED PRICE FOR EXPORT.

Carnate

Nail Polish

Softens the Cuticle. Brilliant & Lasting Polish.

Minimum Retail 1/9

Wholesale 15/- doz.



Lemon Squash

(Home-made Lemonade)

Made from Fresh Lemons & Best Sugar.

In tins containing 12 large tablets, each in a packet. The contents of one packet in a large tumbler of cold water makes a delightfully refreshing drink, or a splendid hot drink can be made by using boiling water. **Price per dozen tins 15/-**



R. Demuth's Laboratories,

68 Salusbury Rd., & Montrose Av.,

London, N.W.8.



OUR EXHIBIT at the BRITISH INDUSTRIES' FAIR, 1921.

If you have not received a copy of our PRICE LIST of PACKED TOILET GOODS, please write for one.

We invite you to visit us at our Showrooms when in London.

(No. 20 Bus passes the door.)

Telephone : HOP 4170 (2 lines).

WILLIAM TOOGOOD LTD
77, SOUTHWARK ST
LONDON, S.E.1.

Telegrams : "TOOGOOD, BOROH, LONDON."

North, South, East and West.
Which is the Powder that's stood the test ?
North, South, East and West.
Chemists are selling it daily with zest.

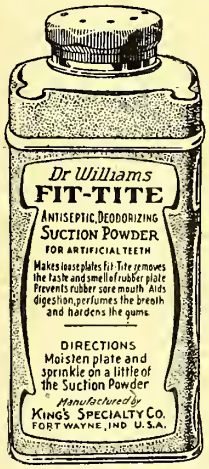
See page 61.

ADSCADSCADSCADSC

A NON-COMPETITIVE LINE.

Dental Plate Powder

Gives Comfort in eating



And Security in speaking

Attractive Showcard & Booklets Free.

American Drug Supply Co., Ltd.
6 Northumberland Avenue, LONDON, W.C.2



THE **ORIGINAL**

USUAL WHOLESALERS, OR

SECKER, ROBB & CO.
Cromwell House,
SURREY STREET, W.C. 2.

Telegrams: "Tinophiz, London."
Telephone: Central 2420.

Continuously Supported by Widespread Publicity!



A Wonderful Group of BIG SELLERS

By reason of the remarkable **FREE GIFT SCHEME** featured in all the advertising, a stream of new customers is constantly being created for

EDWARDS' HARLENE

TOILET SPECIALITIES

"HARLENE" FOR THE HAIR
"UZON" BRILLIANTINE
"CREMEX" SHAMPOO POWDERS
"ASTOL" FOR GREY HAIR
"ASTINE" VANISHING CREAM
"ASTINE" SHAVING STICK
"ASTINE" TOOTH CREAM
"ASTINE" NAIL CREAM

No Chemist or Store can afford to be without this unique line of Toilet Preparations, for they bring "GOOD" custom.

IMPORTANT NOTICE. We are pleased to announce that, owing to the slight drop in cost of raw materials, we are now able to execute **orders carriage paid** on parcels of assorted goods to the value of £5 and upwards net. Case charged 2s. 6d. extra, allowed for in full if returned, carriage paid, within 7 days.

This Special Offer is Strictly Cash with Order.

Free Cases are entirely discontinued. In no circumstances will carriage be paid on orders less than £30, where goods are charged to a/c. Every Chemist and Stores should avail themselves of this profitable £5 Carriage Paid Parcel Offer **at once.**

EDWARDS' HARLENE, Ltd. 20, 22, 24 & 26 Lamb's Conduit Street - - - LONDON, W.C.1.

Toilet goods that bring repeats

The "MITCHOLA" SERIES

Regd. Trade Mark.

Bath Crystals in Bottles.

Bath Salts in Barrels.

Smelling Salts in Stoppered Flagons.

Smelling Salts in Silver-Mounted Flagons.



Lavender Sachets.

Lavender Bags.

Olde English Lavender Water

The well-known Actinic Green Flagons with Sprinklers.

To Retail **2/6** **4/6** **8/-** **15/6** each.
Per Dozen **20/-** **36/-** **63/-** **117/-** per dozen.

Special Sample size **9/-** per dozen.

Also in Wickered Flagons at **24/-, 42/-, 72/-** and **126/-** per dozen.

SOLE PROPRIETORS—

LORIMER - MARSHALL, LTD.

12 Tower Hill - - LONDON, E.C. 3. *Phone: New Cross 2119.*

"L" BRAND. MARSHALL'S LYSOL GENUINE "L" BRAND.

The ORIGINAL and ONLY GENUINE Product.

PHARMACISTS!

We invite your especial attention to the announcement below, and at the same time extend a cordial vote of thanks to those who so kindly responded to our effort on behalf of the Benevolent Fund.

Yours truly, LYSOL, LIMITED.

WE have to announce that we have acquired the Lysol business, formerly carried on and owned by Schulke & Mayr, Hamburg, together with the Goodwill and all Trade Marks attaching thereto.—This purchase has been made by us in conjunction with the owners of the American rights in Lysol. The business has been purchased outright for cash and no reserved interest or royalty remains.

The attention of Pharmacists is specially directed to this announcement in order to avoid misunderstanding caused by mis-statement or misrepresentation of facts. Marshall's Lysol is made by us according to the formula always employed by Schulke & Mayr, and is therefore the Original and only Genuine preparation. All our packages will bear the Original Triangle Trade Mark at an early date, and will serve to distinguish our product from the many substitutes and imitations now being offered to the Pharmacist by all sorts of sellers. Reputable Pharmacists would be well advised to steer clear of such offers (although apparently tempting) and satisfy themselves and their customers by stocking and supplying only Marshall's Lysol.

Lysol REG. TRADE MARK

LYSOL, Ltd. Raynes Park, LONDON, S.W. 20

Makers of Lysol Soap—Ōsyl.

Lysol REG. TRADE MARK

REGISTERED
TRADE MARK

ŌSYL

TOOTH PASTE

The Line that gives you 80 - 100% profit. Make your order out as below and send on to us for the SPECIAL WINDOW SHOW PARCEL

Please send me, carriage paid, with Window Display matter:
7½d. ŌSYL TOOTH POWDER at **59/6** per gross
7½d. ŌSYL TOOTH PASTE „ **67/6** „
1/3 ŌSYL TOOTH PASTE „ **135/-** „
with bonus of ⅓ **quantity** ordered on three dozen lots, for which I enclose cash and undertake to make counter and window display in return for above special terms.

Read this, from a satisfied Pharmacist:
"Never sent a cheque with more pleasure; wish I could do a hundred times the amount, but this is only a small village."

Lysol
REG. TRADE MARK

LYSOL, Ltd. Raynes Park, **LONDON, S.W. 20**
Makers of Lysol Soap.

Lysol
REG. TRADE MARK

Every box of Poudre Nildé now contains a Puff of Pre-War Quality

HERE is an added stimulus to demand. In future, the phrase "Every box contains a puff" will mean a puff of the highest quality, which we are now including in every box of Poudre Nildé. War conditions compelled us to substitute an article somewhat below the high standard we desired.
When existing stocks are cleared, the return to pre-war quality will be widely advertised to the public.

POUDRE NILDÉ

in the sifter box

Shows you 33⅓% on selling price.

The consistent advertising of Poudre Nildé is continually enlisting fresh custom. Advertising induces the initial sale, but the repeat orders which invariably follow are only produced by the sheer merit of the article, to which advertising has, in the first instance, introduced the customer.

MINIMUM SELLING PRICES:

Rouge Invisible Nildé

in the sifter box.

Small size	1/6
In leather case	5/6

TINTS: Brune and Blonde.

Savon Nildé

The Creamy Lather Soap.

The striking and artistic carton in which Savon Nildé is packed encourages the initial sale—the superfine *quality* of the soap ensures repeat orders.
Minimum selling price, **1/3** per cake, shows you **33⅓%** profit through your wholesaler.

Crème de Beauté Nildé

adds to protection of the skin afforded by Poudre Nildé, and is just as economical to use.
In two Shades: Blanche and Naturelle, **2/-**; *large size,* **3/-**

Poudre Nildé

in the sifter box.

Handbag size	1/-
Medium size	2/-
Large size	3/6
Leather or fancy silk vanity cases, with mirror, small size	5/-
Medium size	7/6
Large size	10/-

SHADES: Blanche, Rachel, Naturelle, Rose, Basanée and Indienne.

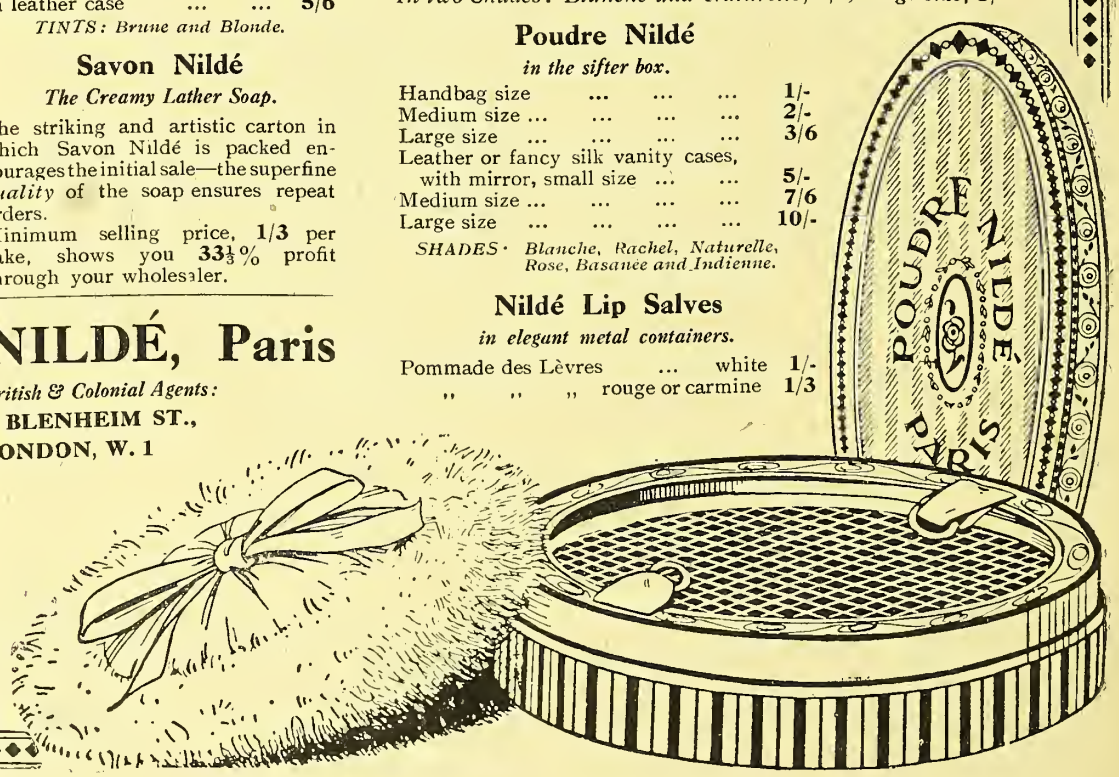
Nildé Lip Salves

in elegant metal containers.

Pommade des Lèvres ... white	1/-
" " " rouge or carmine	1/3

NILDÉ, Paris

British & Colonial Agents:
8 BLENHEIM ST.,
LONDON, W. 1



NORTH

"I had a heavy stock on hand and am pleased to state Eucryl is moving rapidly." N. . . GLASGOW.

"I can safely say I have trebled my sales of Eucryl preparations." H. . . . LONDON NORTH.

WEST

"Net sale during display, 22 dozen. As the population is just under 3,000 sales have been remarkable." B. . . . LLANDRINDOD.

"Our first day and half sales totalled 8½ dozen." W. . . . LONDON, WEST.

Window Display

A good window display is your best advertisement. It sells the goods displayed and many others besides. It also brings new customers

IF *it is attractive*
it contains these

EUCRYL PRODUCTS

TOOTH POWDER
TOOTH PASTE
DENTALINE *for artificial Teeth*
SHAMPOO POWDER

LYSOL

LYCRYL Surgical BRAND

Write for particulars of Bonus Terms and Profits to

Sales Manager,
EUCRYL LTD., SHIRLEY, SOUTHAMPTON.

EAST

"Stocks moving fast. Have given further order to your representative and expect to repeat soon. *Have made many new customers.*" W. . . . GRIMSBY.

"I was compelled to re-order from wholesaler two days after display. Yesterday I gave your representative a £10 order." D. . . . LONDON EAST

SOUTH

"I sold approximately 16 dozen Powder and Paste including 1/6 Sprinklers, and 1/2 size Powder. I am still feeling the benefit of my display." D. . . . PORTSMOUTH.

"The net sales during my display resulted in disposing of 30 dozen and 4. I am very pleased and will renew the show shortly." D. . . . LONDON SOUTH.

Telegraphic Address: "Cresswell, Westcent, London." **WORLD'S HEADQUARTERS FOR** Telephone: No. 1432 Holborn.

SPONGES

INTERNATIONAL SPONGE IMPORTERS, LIMITED.

CRESSWELL BROTHERS

Sponge Importers, Exporters and Merchants, and Chamois Leather Dressers,

18 & 19 RED LION SQUARE, New Warehouses and Steam Bleacheries, 45½ EAGLE STREET, [BRANCH, **LONDON, W.C.**

BEST HOUSE FOR SPONGES

Buyers are invited to call to Inspect our Magnificent Stocks and make their own Selections. Lowest Market Prices. Absolutely Best Values. The following abridged List will serve as a guide to Buyers when writing.

UNBLEACHED MEDITERRANEAN SPONGES in Original Cases.



HONEYCOMB.

Extra Choice.
The Pick of all the Fisheries.
FINEST TEXTURE and SHAPE.

Pieces in Case.		Average Price per Piece.
300	Toilet at	9d.
250	,, ,,	1-
200	,, ,,	1/6
160	,, ,,	2/-
140	,, ,,	2/6
120	,, ,,	3/-
100	,, ,,	3/6
90	Medium Bath	4/6
80	,, ,,	5/6
72	,, ,,	6/6
60	,, ,,	7/6
45	Large Bath ,,	8/6
30	,, ,,	10/6

HONEYCOMB.

Toilet & Bath
Good 2nd Quality.

Pieces in Case.	Av'ge Price per Piece.
270 at	6d.
180 ,,	9d.
170 ,,	1/-
160 ,,	1/6
140 ,,	2/-
120 ,,	2/6
110 ,,	3/-
90 ,,	3/6
80 ,,	4/-
75 ,,	4/6
70 ,,	5/-
65 ,,	5/6
60 ,,	6/6

FINE TURKEY SOLIDS.

SELECTED SHAPES.
1st Quality.

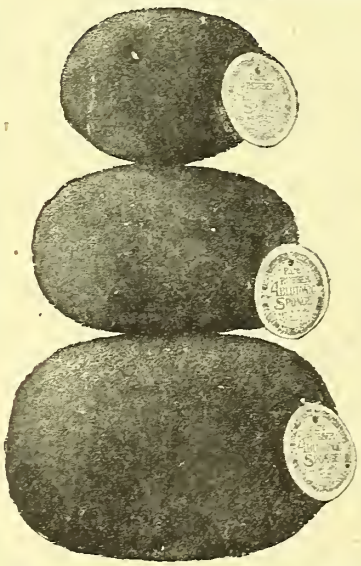
Pieces in Case.		Average Price per Piece.
Nursery 200	at	1-
Toilet 150	,,	1/6
,, 100	,,	1/9
,, 100	,,	2/-
,, 80	,,	2/6
Bath 50	,,	3/-
,, 36	,,	4/-
,, 24	,,	5/-



IMPORTANT NOTICE. THE CONTENTS OF THE ABOVE CASES WILL BE PRESS-PACKED AND SENT POST FREE TO COLONIAL AND FOREIGN BUYERS WITHIN THE RADIUS OF PARCELS POST.

LOOSE GOODS DEPARTMENT. **Sponges in Small Packages.** Fine Turkey. Fine Egyptian and Honeycomb. In 1st, 2nd & 3rd Qualities. Bleached or Unbleached (state which in ordering). On Strings of 1 dozen pieces, or loose in Bags. At per dozen: **2s.**, **3s.**, **4s.**, **6s.**, **9s.**, **12s.**, **15s.**, **18s.**, **24s.**, **30s.**, **36s.**, **42s.**, **48s.**, **54s.**, **60s.**, **66s.**, **72s.** Bleached Cuban. At per String or Dozen. Wool, Grass, Yellow and Fine. **1s.**, **2s.**, **3s.**, **4s.**, **6s.**, **9s.**, **12s.**, **15s.**, **18s.**, **24s.**

NEW VELVET HONEYCOMB. Soft, durable, and large for money. *Suitable for Toilet and Bath purposes.*
PRICES—Cut Shapes ... ... 3s., 4s., 6s., 9s., 12s., 15s., 18s., 21s., 24s. per dozen.
,, Natural Shapes 4s., 6s., 9s., 12s., 15s., 18s., 21s., 24s., 30s., 33s., 36s. ,,
Strongly recommended where an inexpensive Toilet & Bath Sponge is required.



The Best and most Saleable Rubber Sponge on the Market.

ABLUTONIC RUBBER SPONGE

The nearest approach to the true Fine Turkey Sponge yet produced.

A VERITABLE TRIUMPH OF BRITISH MANUFACTURE.

Very Soft, Durable and Absorbent.

Supplied in OVAL and ROUND SHAPES.

	Nos. 01	1	2	3	4	5	6	
Prices:—OVAL SHAPES	**8/-**	**10/6**	**15/-**	**22/-**	**30/-**	**39/-**	**50/-**	doz.

	Nos. 1 R	2 R	3 R	4 R	5 R	6 R	
,, ROUND SHAPES	**13/6**	**18/6**	**27/-**	**39/-**	**50/-**	**60/-**	doz.

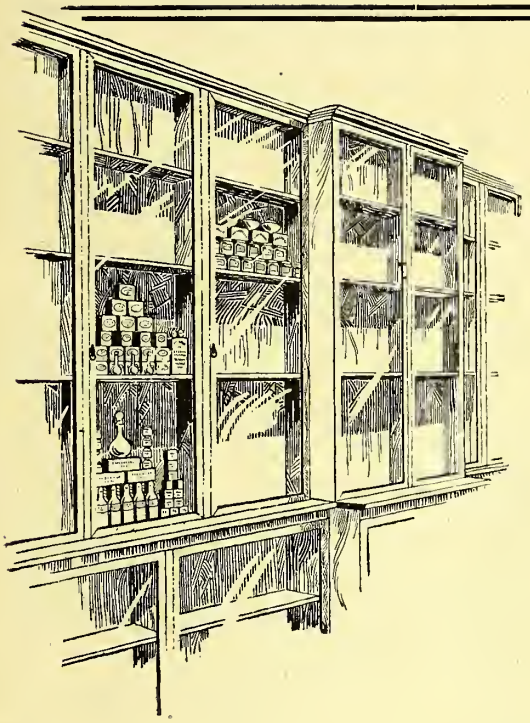
Send for Samples.

LOOFAHS (Vegetable Sponge). In original compressed bales, as imported from Japan.

Size 8" by 10" about 5,000 pieces in Bale		Size 14" by 16" about 2,500 pieces in Bale	
,, 10" ,, 12" ,,	4,500 ,, ,, ,,	,, 16" ,, 18" ,,	1,800 ,, ,, ,,
,, 12" ,, 14" ,,	3,500 ,, ,, ,,	18" and upwards	1,200 ,, ,, ,,

We will send lowest prices on application.

Prices for Loofahs swollen out & ready for sale, at per gross **30/- 36/- 42/- 48/- 60/- 72/-**



Does your Stock Pay its Rent?

YOUR shelves actually *have* a rental value, which you pay for in the total rent of your shop.

If you were to charge up against each item of your stock a rent—call it "storage," if you like—in proportion to the space it occupies and the time it stays on your shelves, you would find probably that the cost of *keeping* some goods is wiping out a great deal of the profit you might expect from *selling* them.

Run your eye over some of these lines which are, so to speak, eating their heads off. Is it not a fact that most of them are not strongly advertised?

Over a good many years now, Gibbs have proved that consistent advertising is a large factor in keeping stock moving *from* the chemist's shelves.

Therefore in every succeeding year we have increased the volume and scope of our advertising efforts.

Thus, this year, our increased advertising, backed by the loyal sales co-operation of our friends the chemists, is doing much to ensure that Gibbs Dentifrice and other Toilet preparations shall occupy shelf-room for a minimum of time.

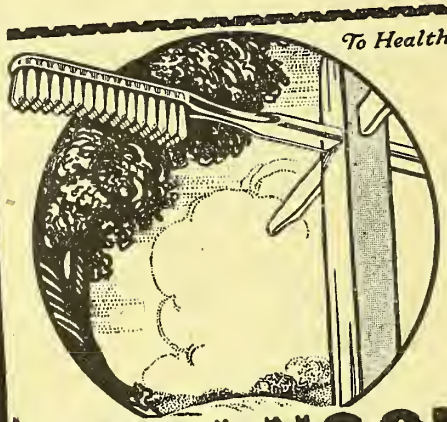
Let this year's motto be: "Order only well-advertised Goods."

Then you may be sure that all your stock will pay its shelf-rent and leave ample profit over.

D. & W. GIBBS, LTD. (Dept. S 6) City Soap Works, LONDON, - E. 1.

Gibbs Dentifrice

and Toilet Preparations



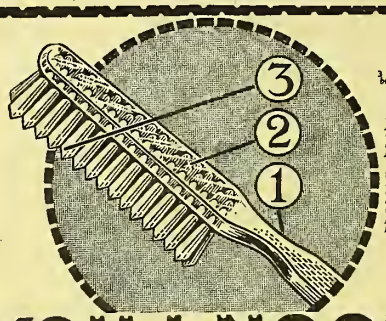
To Health!

KOH-I-NOOR
The Ideal Tooth Brush

Here it is——the Brush that makes a daily duty downright pleasureful!

KOH-I-NOOR, that's the name of a REAL Brush, thoroughly constructed from the best of materials—a clean, "hygienic-looking" article that's going to ***clean*** your teeth better by penetrating into the tiniest crevice—it's going to preserve them, too, by not damaging the delicate enamel in the slightest degree.

Look at the bristles—handle them, they're smooth but ***not*** soft, they're firm but ***not*** harsh. And see how they are buried deep down in the shaft with "rock-like" fixedness. It's a one-piece brush [illegible] bristles that just won't be forced out!



3 Bristles firm but not harsh.

2 Each tuft fixed separately and guaranteed fast.

1 Shaft in 6 sizes and different colours, permitting one for each of family.

KOH-I-NOOR
The Ideal Tooth Brush

Your teeth need ***cleaning***—not merely ***brushing***. They're good enough to demand the best of Brushes that gets right down into the tiniest crevice and does its work pleasingly and [illegible] the KOH-I-NOOR—the [illegible] limy,

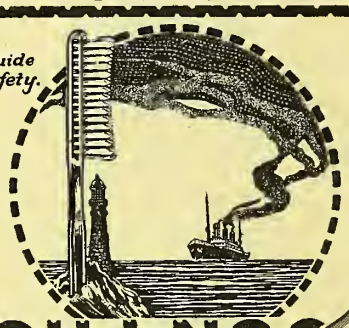
It costs no more to say

KOH-I-NOOR
The Ideal Tooth Brush

and what a difference it makes to the Brush you receive!

THIS KOH-I-NOOR BRUSH HAS BEEN [illegible] THE PUR[illegible]

The Guide to Safety.



KOH-I-NOO[illegible]
The Ideal Toot[illegible]

This KOH-I-NOOR will be as effecti[illegible] [illegible]ths ahead as on the day you buy. It is built on [illegible] clean teeth in a better way. Always smooth, but neve[illegible]ever harsh. That's the guaranteed Tooth Brush which is s[illegible]/- and 3/- per Brush, and made in six sizes and distincti[illegible]



KOH [illegible] for e[illegible] of m[illegible]

T[illegible] carried out w[illegible] ease that mal[illegible]

THIS KOH[illegible] —IT IS A[illegible]

with tufts of fi[illegible] the guarantee is[illegible] separate tufts a[illegible] there for ever?

IT COSTS N[illegible]

Made in six sizes[illegible] qualities at 2/6 a[illegible] and all [illegible]

KOH-I-NOOR
The Ideal Tooth Brush

You need NOW a Brush for your teeth that's taut enough to clean effici[illegible] scratching—that's pleasant to use—that retains its smoothness withou[illegible] eliminess, that fulfils the duties of a first rate brush ***made for t[illegible]***

KOH-I-NOOR is made in six sizes and distinctive colou[illegible] qualities, at 2/6 and 3/- per brush.
the leading Chemists and Stores

ADVERTISEMENTS WHICH TELL THE KOH-I-NOOR STORY IN AN INTERESTING AND CONVINCING WAY.

THREE MILLION TOOTH-BRUSH BUYERS WILL SEE THESE ADVERTISE-MENTS.



50% Profit on Cost

ON THE P.A.T.A.

	No. 522	523	519 (child's)
WHOLESALE, PER DOZ.	*20/-*	*23/6*	*12/-*
RETAIL PRICE, EACH	*2/6*	*3/-*	*1/6*

YOUR PROFITS GUARANTEED.

AN attractive Counter Display Stand is supplied free with orders for three dozen and upwards.

t will remind probable purchasers of the "advertise-ent-recently-seen-in-their-favourite-paper" and ill help to complete the sale.

If you require a toothbrush that you can recommend with confidence order the KOH-I-NOOR.

STOCKED BY ALL WHOLESALE DRUGGISTS' SUNDRIESMEN.

C C



Important Reductions in Price of the famous *Sorbo Sponges*

Get in a Stock at these new Prices!

CHEMISTS all over the world will be delighted to hear that the most popular sizes in Sorbo Sponges, the great all-British Natural Coloured Rubber Sponges, have been considerably reduced in price, and on the smaller sizes the profit to you has been increased.

Now, more than ever, Sorbo Sponges with their many uses, their unique features of luxury, their outstanding economy, will be eagerly sought after by the public.

You know how your customers love a bargain. Judge then how great will be the demand when these remarkable sponges, famous already for their economy, are marked at these new reduced prices.

Take advantage of the reduced retail price and the increased profit which you get. Order a stock of Sorbo Sponges—packed in the new hygienic transparent cover—NOW.

Sorbo Sponge

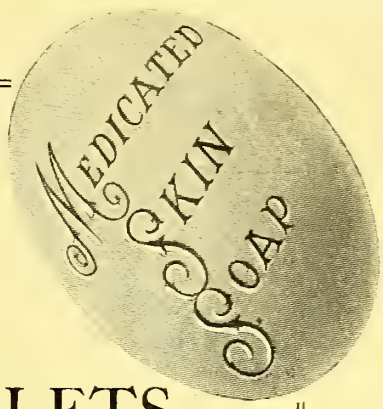
THE MOST ABSORBENT RUBBER SPONGE

Reduced Retail Prices: No. 1, **1/3**; No. 2, **2/-**; No. 3, **3/-**; No. 4, **5/-**
Bath Sizes: No. 4R, **7/6**; No. 5, **10/6.**

SORBO RUBBER-SPONGE PRODUCTS, LIMITED,
24 Walbrook, London, E.C. 4.

Telephone: CITY 9372. Telegrams: "Osorbeau London."





YOUR NAME

on

3 DOZEN TABLETS OF TOILET SOAP

WHILST we always desire the Trade to Stock MARGERISON'S TOILET SOAPS, we recognise that many Chemists stock an Own Name line in addition. To meet the demand for the latter we have introduced a special mould, and are prepared to stamp so small a quantity as two gross tablets without any extra cost. You will see from illustrations that this is a very fine line, and same can be stamped in the following varieties :—

BUTTERMILK	OLD BROWN WINDSOR
GLYCERINE & CUCUMBER	VIOLET-SCENTED OATMEAL
SUPERFATTED SKIN SOAP	ROSE
MEDICATED SKIN SOAP	BABY CURD
COLD CREAM	SULPHUR
BORACIC & COLD CREAM	PARMA VIOLET

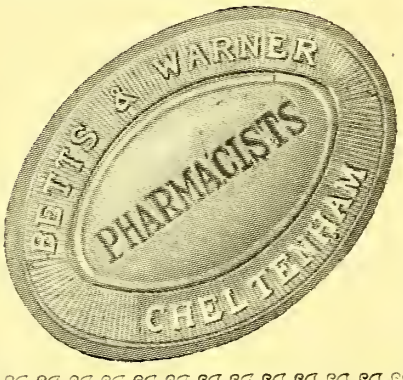
In making this SPECIAL OFFER we would point out that an assorted order must not include less than three dozen tablets of any one kind. Samples of this line and full particulars will be sent on application to—

J. MARGERISON & COMPANY,

WHITE
WINDSOR
SOAP
WORKS,

PRESTON.





The Brush to sell in 1921

BRITISH PROPHYLACTIC

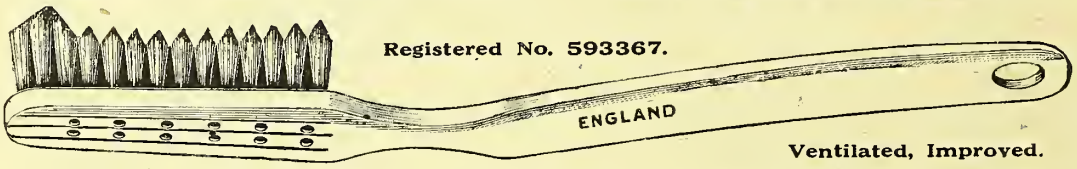
(Reg. No. 593367).

None Genuine without the correct Number 593367.

Manufactured by ROBERT ADDIS & SON, London and Hertford.
The firm who made English Tooth Brushes famous as the world's best.

The 'ASEPTIC' or 'PROPHYLACTIC.'

When not in use, a Tooth Brush should not be allowed to remain wet, or it becomes offensive. The advantage of this Brush is—it can be hung up to drain, allowing the air to dry and purify it.



Registered No. 593367.

Ventilated, Improved.

To be obtained from Wholesale Houses. Packed in cartons, facilitates sales and ensures brush reaching user in clean and antiseptic condition.

No. 1 - **18/-** per doz. Retail, **2/3** each.
Best - **20/-** ,, ,, **2/6** ,,
Best - **15/-** ,, ,, **1/11** ,,
(Youth's size)

We would remind our friends that it is on the reliability of your goods that your reputation depends. When you sell our productions you are handling absolutely trustworthy British-made goods of the finest quality.

NATIONAL SCHEME FOR DISABLED MEN

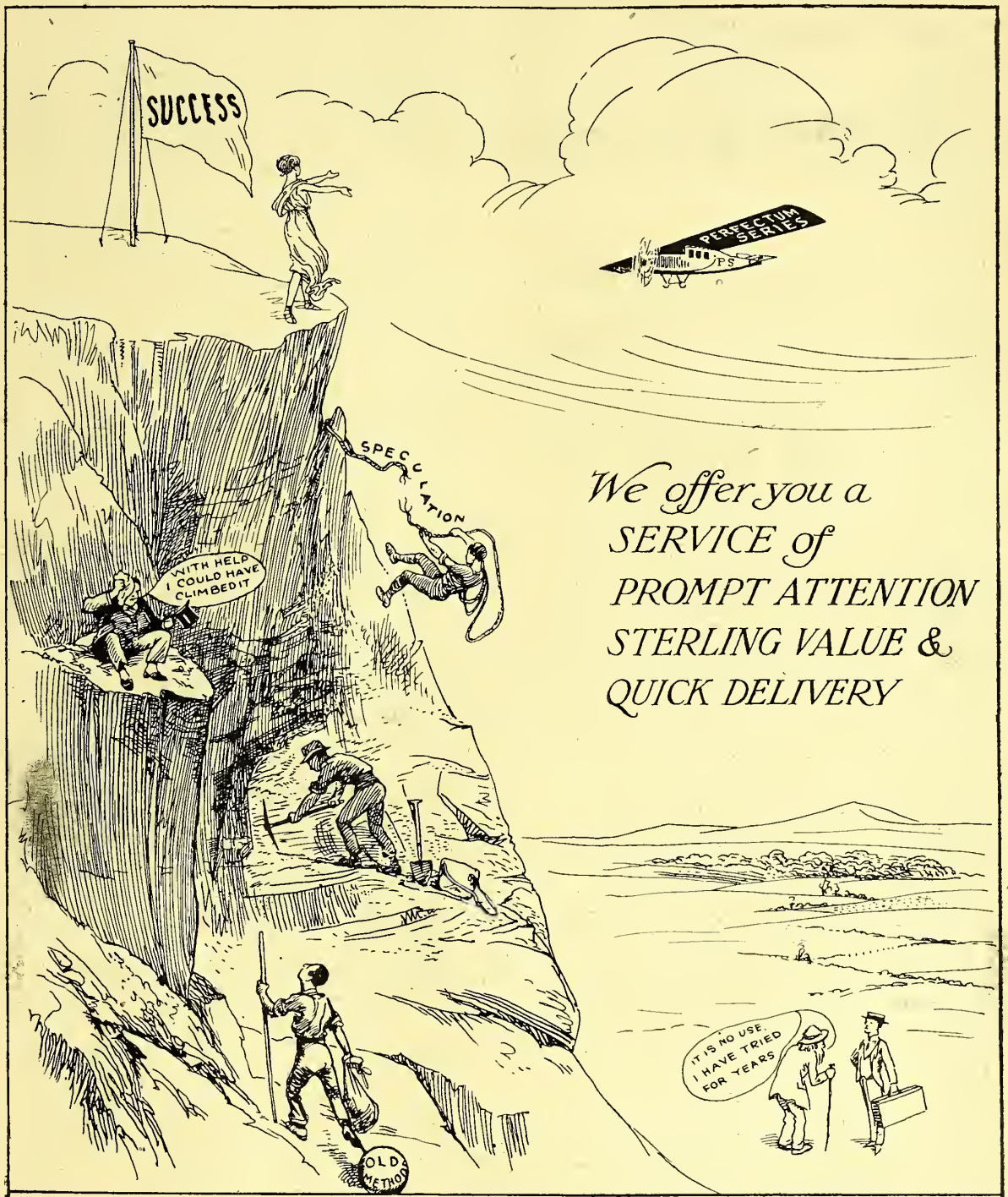
¶ *The oldest Firm of Tooth Brush Manufacturers in the world.*
Owned by ROBERT ADDIS & SON, direct descendants of the first maker of Tooth Brushes, and not a Limited Company.

ESTABLISHED 1780.

ROBERT ADDIS & SON, *Tooth Brush Manufacturers,*

London Brush Works, LONDON FIELDS, N.E. 8.

Telephone Nos.: DALSTON 2525, and HERTFORD 71. **And Brush Works, HERTFORD.**



We offer you a SERVICE of PROMPT ATTENTION STERLING VALUE & QUICK DELIVERY

Arthur Berton Ltd

Manufacturers of Surgical Dressings and Chemists' Sundries.

Tel. Add. "Aybelim, Finsquare, London"
Tel No. Clerkenwell, 1347/8/9.

15/17, Worship St., London, E.C.2.
11, Miller St., Glasgow.



GET THEM ALL FROM

Sangers

Druggists' Sundries
Toilet Preparations
Packed Goods
Photographic Materials
Drugs, etc. etc. etc.

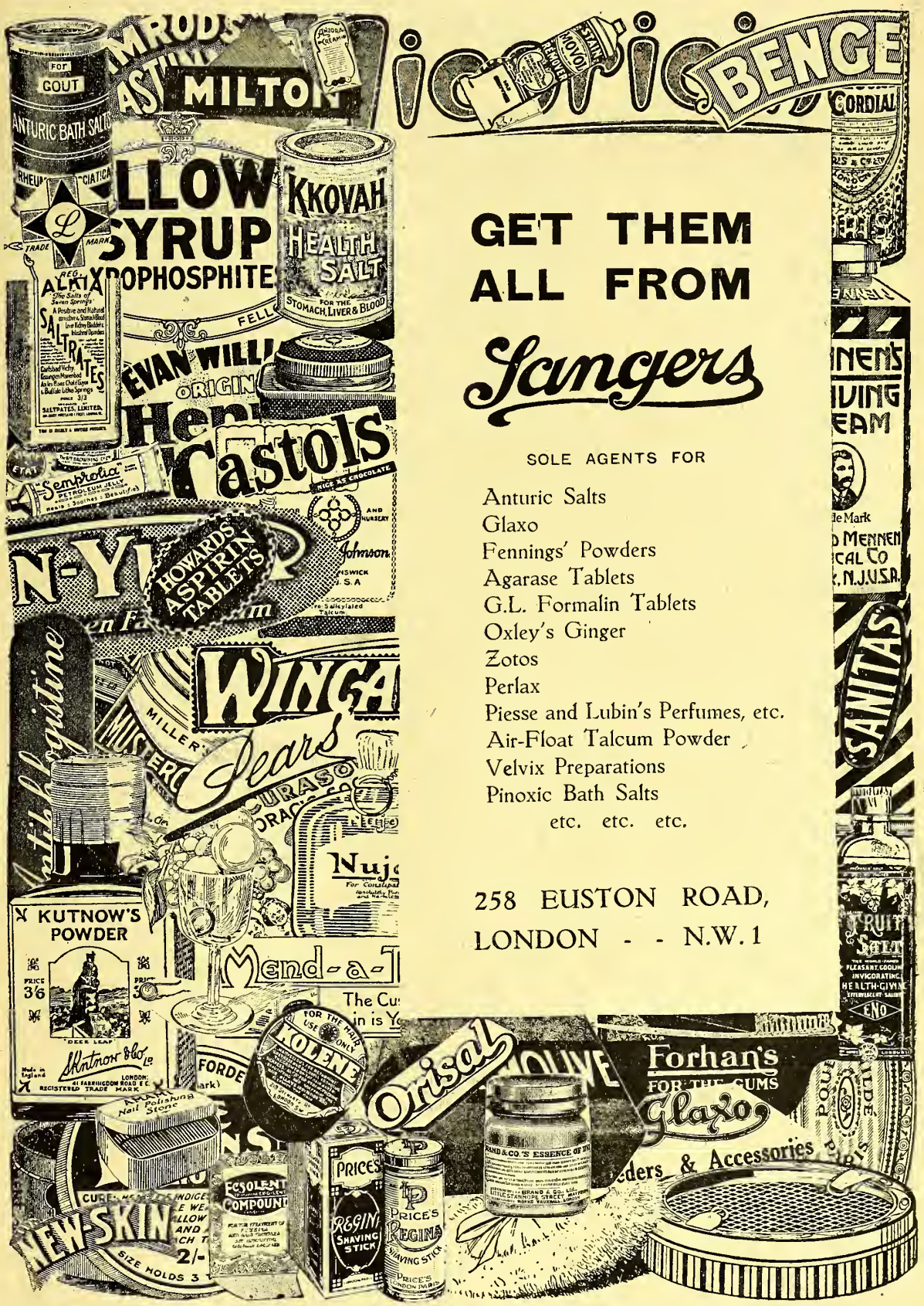
SHOWROOMS OPEN:
8.30 a.m. to 1 p.m., 2 to 6 p.m.
Saturdays, to 1 p.m.

TELEGRAMS:
"Pharsalia, Phone, London"
(two words).

TELEPHONE:
Museum 5440
(Private Exchange)

	Extensions
For Orders - -	- 1-7
" Inquiries -	- 13
" Counting House	- 14
" Goods Entrance	- 17

258 EUSTON ROAD,
LONDON - - N.W. 1.



GET THEM ALL FROM *Langers*

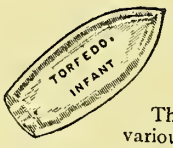
SOLE AGENTS FOR

Anturic Salts
Glaxo
Fennings' Powders
Agarase Tablets
G.L. Formalin Tablets
Oxley's Ginger
Zotos
Perlax
Piesse and Lubin's Perfumes, etc.
Air-Float Talcum Powder
Velvix Preparations
Pinoxic Bath Salts
etc. etc. etc.

258 EUSTON ROAD,
LONDON - - N.W. 1

KIRBY'S
CRYSTAL WHITE
GLYCERINE SUPPOSITORIES





Two Shapes:–
TORPEDO and CONICAL.

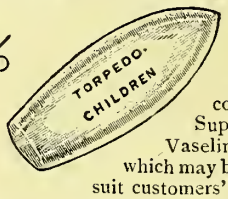
Four Sizes:–
INFANT, CHILDREN, ADULT and EXTRA LARGE.

Sixteen Strengths:–
TORPEDO:—
B.P. 15, 31, 54, & 90 minims.
90% 20, 40, 70, & 115 ,,
CONICAL:—
B.P. 12, 20, 40 & 80 minims.
90% 15, 25, 50 & 100 ,,

When ordering please state distinctly whether B.P. or 90% also shape required.



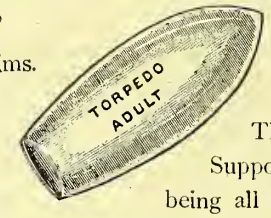
B.P. 70%
also
90%

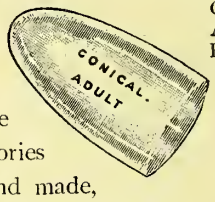


The various shapes and sizes illustrated are packed in Gold Lacquered Tins, each containing one dozen Suppositories and a tube of Vaseline, with engraved labels which may be in almost any colour to suit customers' taste.

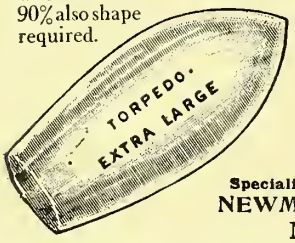
PRICE, B.P. or 90%, Either Shape.
INFANT, 5/6 per dozen Tins.
CHILDREN, 7/- ,, ,, ,,
ADULT, 10/- ,, ,, ,,
EXTRA LARGE, 14/6 ,, ,, ,,

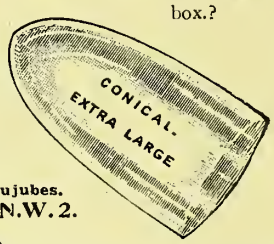
☛ Shall we send you a free sample box.?





These Suppositories being all hand made, the amount of Glycerine given as being in each Suppository must be taken as the approximate and not the absolute quantity.





H. & T. KIRBY & Co., Ltd.,
Specialists in Glycerine Suppositories, Glycerine Lozenges & Glycerine Jujubes.
NEWMAN HOUSE, WILLESDEN GREEN, LONDON. N.W.2.
NAME & ADDRESS ON ORDERS OF 3 DOZEN TINS.

Write for Samples and Prices.

Specialities for Spring Display.

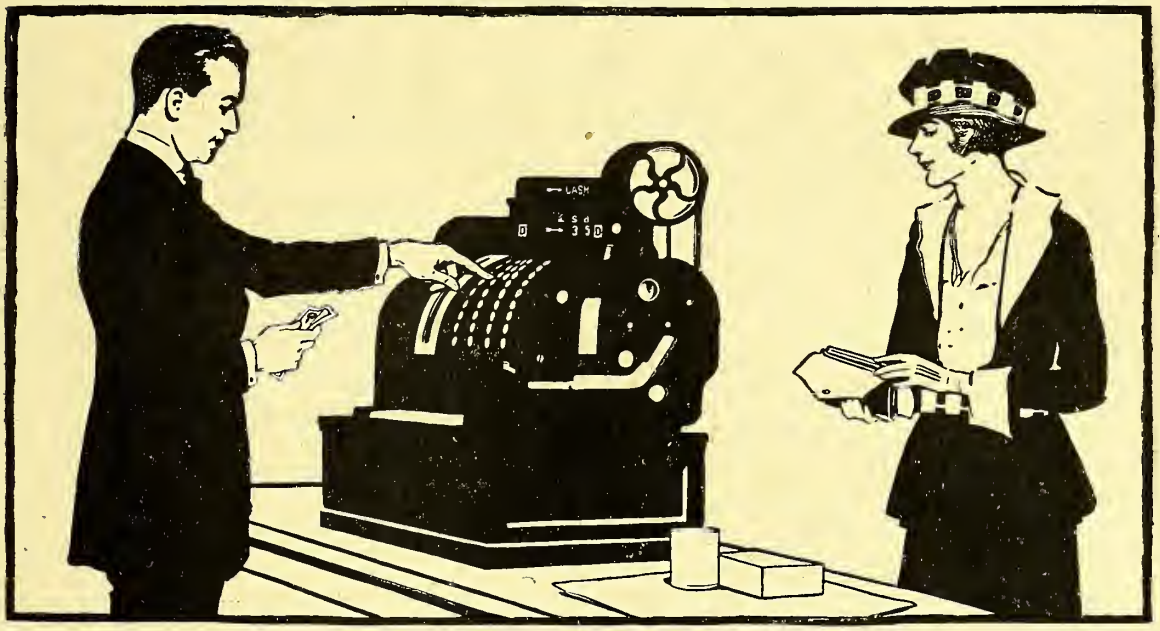
FIG, SENNA and SULPHUR TABLETS

BRIMSTONE and TREACLE TABLETS

SULPHUR BLOOD TABLETS
(COMPRESSED)

Two and four ounce Cartons (original designs) with attractive Showcards supplied free

Thos. Guest & Co. Ltd., Carruthers Street, Manchester



Better Satisfied Customers means Increased Trade.

STATISTICS show that more customers are lost by the way transactions are mis-handled in retail shops than by any other means.

Your system of handling your business is therefore of the utmost importance to you.

Among the many letters of appreciation we are continually receiving from users of National Cash Registers, one recently received reads: "We should have purchased 'Nationals' far sooner had we realised their complete efficiency and freedom from error."

Mistakes, carelessness and inefficiency are costing you much more than you realise. Installing a National Cash Register would prevent these mistakes and losses, and pay you a good profit on the investment.

There is a National Cash Register suitable for any business large or small.

Why not investigate our claims, it will cost you nothing?

The National Cash Register Co., Ltd.
225, Tottenham Court Road, London, W. 1.
Branch Offices in all large towns.

The N.C.R. Co., Ltd.,
225, Tottenham Court Road,
London, W.1.

COUPON.

Please send without charge or obligation details of your National Cash Registers suitable for my business.

Name _____

Address _____

C. & D. _____

C C 2

COMBS

LADIES' DRESSING COMBS.

No.		Size.	Per Doz.
103	Black celluloid ...	... 7 × 1½″	6/6
171	White ,, ...	... 7 × 1½″	6/6
102	Black ,, ...	... 8 × 1¾″	7/6
101	White ,, ...	... 8 × 1¾″	7/6
121	Black ,, ...	... 7½ × 1¾″	8/6
222	White ,, ...	... 7¼ × 1½″	8/6
118	Black vulcanite ...	... 8 × 1¾″	10/0
116	Shell celluloid ...	... 7½ × 1¼″	12/0
166	White ,, ...	... 7½ × 1½″	12/0
187	Black ,, ...	... 7½ × 1½″	15/0
195	,, vulcanite ...	... 8 × 1¾″	15/0
107	,, celluloid ...	... 8 × 1¾″	20/0
106	White ,, ...	... 8 × 1¾″	24/0

GENTS' COMBS.

165	Black celluloid ...	... 6½ × ⅞″	6/6
144	Black vulcanite ...	... 7 × 1″	7/6
143	Black ,, stout ...	7 × 1″	8/6
203	Horn	... 7 × ⅞″	9/3

LADIES' RAKE COMBS.

No.		Size.	Per Doz.
223	Black celluloid ...	... 8 × 1¾″	8/0
224	White ,, ...	... 8 × 1¾″	8/0
167	White ,, ...	... 6 × 1¼″	8/6
119	Black ,, ...	... 8 × 1⅜″	10/6
115	White celluloid ...	... 7½ × 1¾″	15/0
117	,, ,, ...	... 7½ × 1½″	18/0
174	,, ,, ...	... 8 × 1¾″	24/0

LADIES' HANDLE COMBS.

104	Black celluloid ...	... 8 × 1″	15/0
105	White ,, ...	... 8 × 1″	15/0
216	Black vulcanite ...	... 8½ × 1¾″	24/0

SMALL TOOTH COMBS.

239	White celluloid ...	... 3 × 1¾″	4/6
151	,, ,, ...	... 3½ × 1⅞″	5/6
192	Black vulcanite ...	... 3 × 1¾″	7/6
202	,, ,, stout	... 3½ × 2″	9/0

A discount of 5% for prompt cash is allowed on all amounts of 10/- and upwards. Money returned if goods are not satisfactory. Now ready, our latest illustrated PRICE LIST, post free for the asking.

BURGE, WARREN & RIDGLEY, Ltd.
91 & 92 GREAT SAFFRON HILL——————LONDON, E.C.1.

Rebuilt National Cash Registers



WE often take back used Cash Registers in cases where customers are installing larger or more up-to-date machines. These used National Cash Registers

Thoroughly Overhauled and Rebuilt

are sold under the Company's full guarantee at reduced prices.

Write for details of "Nationals" available, Dept. R.1, The National Cash Register Co., Ltd., 225 Tottenham Court Road, London, W.1.

FREE with 3 doz. Combs



WHOLESALE PRICES:
8/- 10/- 12/- doz.

Glass-Fronted Showcase with 3 dozen Combs.

5% Discount. Cash with Order. Carriage Paid.

Sole Manufacturers—

H. J. LEE & CO., Osborne Works, Lancaster.

9d. per bottle, or 25% clear profit on the selling price of ENO if you buy in gross lots

We are making two Special Advertising Offers to retail pharmacists in return for 14 days' window display on the following basis :—

One-Gross Orders—36/- per dozen, less **20%** and **6¼%**. This affords you the profit outlined above, or a total profit of **£5 8s. 0d.** on your outlay of **£16 4s. 0d.** Cases will be charged for at the rate of **12/-** per gross case, but will be allowed for in full if returned to our works in good condition, carriage paid.

Half-Gross Orders—£8 8s. 0d. case inclusive and non-returnable. This represents a definite profit to you of **8d.** per bottle, or **£2 8s. 0d.** on your outlay. This can only be treated as a TRIAL order, and any repeat orders should be for one gross.

The above special offers are executed carriage paid to your pharmacy, and include a choice selection of new and attractive advertising material to assist in the display of our goods.

A New ENO Price Card

We have just introduced into our Window Display Material a new price card measuring 6″ by 4″. These cards are available with black or brown backgrounds, attractively printed in gold and white embossed lettering, enclosed in an embossed border of grapes and vines. We shall be pleased to send you a supply for counter or window display upon application.

ENO "Sales Helps"

Following are some of our attractive sales helps for retailers which are supplied free upon application :—

1. Counter Wrappers (8 oz. size).
2. Transparencies (in two sizes, 20″ × 6″ or 33″ × 8″).
3. Price Cards for counter or window display. (These useful cards are available in four different wordings, and measure 11¾″ × 4¾″.)
4. Shelf strips. (These are tastefully printed in colours and are particularly suitable for shelves behind your counter or in your window. Available in sets of four. Size 18¾″ × 3″.)
5. Showcards. (In convenient sizes for counter and window display.)
6. Electros of advertisements for local advertising.

ENO'S FRUIT SALT

Brings Health to Your Customers and PROFIT to You

For further particulars please write to the SALES MANAGER, J. C. ENO Ltd., Blackfriars House, New Bridge St., London, E.C. 4

THE ESSENTIAL THING

is clear and attractive glassware. No matter how meritorious the contents, you must have good bottles or other containers for your goods. What are you wanting? *We can do it,* and from stock, too.



KALI.

KALIS.
LIMES.
MEDICALS.
EAU DE COLOGNES.
OPAL POMADES.



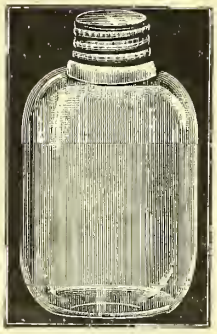
LIME.

SMELLING-SALTS.
SYRINGES.
DROPPING BOTTLES.
SURGICAL GLASSES



MEDICAL.

CHEMICAL & LABORATORY GLASSWARE, TEST TUBES, VIALS, BURETTES, SAMPLE TUBES, &c. &c.

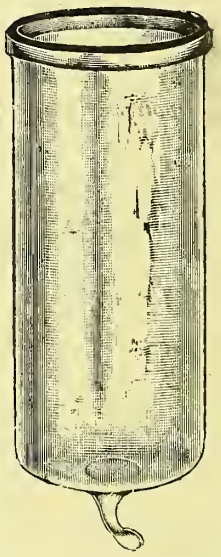


TABLET BOTTLE.

TUBES OF ALL SIZES.
CHEMICAL AND
LABORATORY GLASSWARE.



TWO-ENDED FEEDER.



DOUCHE LINING.

Wholesale Only——————No Retail Firms Supplied.

Goods Depots in North and West London and in most Provincial Centres.

JULES LANG & SON,

CHARLTON WORKS,

CHARLTON PLACE, ISLINGTON, N.1.

Telephones: North 2770-2 (3 lines).
Telegrams: "Assorted, Phone, London."

Codes: A B C, 5th Edition. Scott's 10th Edition (1906). Bentley's Complete Phrase Code.

PLEASE MENTION THIS PAPER WHEN ENQUIRING.



Single Samples free on application.

SAMPLE ORDER
(not repeatable) of 3 doz.
viz. :

1 dozen No. 2...4d. Line
2/9 dozen.

1 dozen No. 2c...6d. Line
3/2 dozen.

1 dozen No. 3...7½d. Line
4/8 dozen.

Carriage paid anywhere within the United Kingdom for 10/6, or to any part of the World for 11/6

A Quick Return and a Good Profit

are desirable in these times.
You can have both if you stock

THE . . .

"EVERSAFE"

(Patent)

The Champion of Baby Pacifiers

Amongst many gratifying expressions of opinion, we have the following, with permission to publish :—

From Messrs. Boots Pure Drug Co., Ltd. Nottingham.

Dear Sirs,

Replying to your enquiry of the 2nd inst. regarding "Eversafe" Soothers, we have very great pleasure in stating that this is certainly the best article of its kind that we have handled and has given us less trouble, if any. It is for that reason that we are considerably increasing our orders with you of late as the article gives satisfaction both to ourselves and our customers.

Yours faithfully.

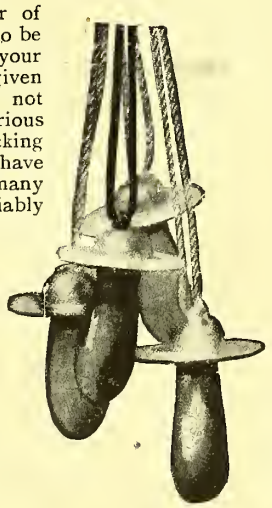
Messrs. Thomas McMullan & Co.,

Belfast.

Dear Sirs,

Replying to your letter of the 21st inst., it gives us pleasure to be in a position to write you that your "Eversafe" Baby Pacifiers have given us entire satisfaction. We are not aware of having received one serious complaint since we started stocking them up to the present time. We have now handled them for a great many years and our customers invariably repeat orders.

Yours truly.

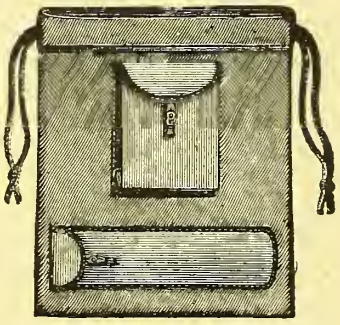
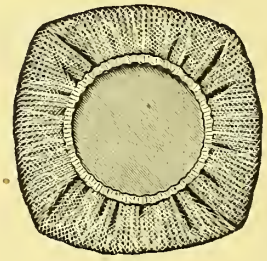


Obtainable through the Wholesale or direct from Patentees—

F. SCHUTZE & CO., LTD.

Manufacturers of Specialities in Druggists' Sundries,

BLACK BULL WORKS,
CALEDONIAN MARKET, LONDON, N. 7.


SPONGE BAGS,
BATHING CAPS,
BATHING COSTUME BAGS,
SPONGE WRAPS,
CRETONNE BABY'S NAPKIN
or BEACH BAGS with Waterproof Pocket,
AND ALL
WATERPROOF GOODS

WASHING GLOVES
AND ALL
TOILET SPECIALITIES

NEW LIST NOW READY.

Solport Brothers, Ltd.

Wholesale and Export Manufacturers of
DRUGGISTS' SUNDRIES,

184 to 190 Goswell Road, London, E.C. 1.

SILKUM



Restricted transport means more walking and an increased demand for Corn remedies. This window has already sold grosses and grosses of Silkum, and the cards illustrated are only a part of what we send you with an order for a gross or more.

Silkum is one of our most successful lines—a plaster on silk with adhesive discs to hold it in position. Some chemists pay their rent out of Silkum alone, why not YOU?





100% Profit for YOU.

In a 5-gross lot, Silkum costs **45/-** per gross or **3¾d.** per packet. A packet sells for **7½d.** Your profit on this quantity is **£11 5s.**

1 gross at **48/-**

Make a Display NOW!

"Moorland Pharmacy Service."

W. B. CARTWRIGHT LTD.
RAWDON NEAR LEEDS

MOORLAND BRAND

Australia.
297-299 CASTLEREAGH ST SYDNEY
320. FLINDERS LANE, MELBOURNE.

New Zealand.
161. HEREFORD ST. CHRISTCHURCH.
CORNER ALBERT & DURHAM STS AUCKLAND

"Moorland Pharmacy Service."

"John Bull"

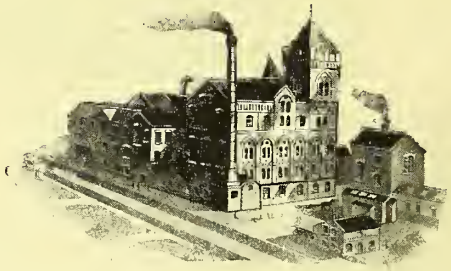


MALT EXTRACT

and

MALT EXTRACT AND COD LIVER OIL

IS THE BEST!!



MILLS & MALT EXTRACT REFINERY.

Supplied in Bulk, Jars, Cardboard Containers, &c.
FOR HOME AND EXPORT.

MALT EXTRACT POWDER. MALT FLOUR specially manufactured for INFANTS' and INVALIDS' FOODS.

Paine & Co., Ltd.

St. Neots, England.



London's most dominating Hoarding

(Bush House Site, Strand, W.C.)

The photograph above is an interesting record of the progress made by Andrews' Liver Salt during its quarter-of-a-century's trading. It is probably the World's *quickest selling* Saline.

SPECIAL WINDOW DISPLAY OFFER.

Send a post card for particulars of the Andrews' Liver Salt Special Window Display Offer. It is of obvious interest to every Chemist who handles this satisfaction-giving line.

SAMPLE TIN FOR PERSONAL TRIAL.

If you do not already stock Andrews', we invite you to send for a 4-oz. tin, post free, for your personal trial.

SCOTT & TURNER, Ltd., Manufacturers, (Dept. C. & D.) NEWCASTLE-UPON-TYNE

London Depôt:

J. C. Gambles & Co., 49 Farringdon Street, E.C. 4.



A Vigorous Campaign.

HERE are small reproductions of four of the attractive advertisements we are using in the campaign now running for the latest addition to our list of well-known commodities—TWINK, which cleans and dyes at the same time.

These advertisements are additional to many FULL COLOUR PAGES which are a special feature of this Press Campaign. They are appearing in the leading daily papers, and the well-known weekly and monthly magazines which appeal specially to all women.

Be sure that you are well stocked with Twink, to meet the big demand that is being ensured by our advertising.

Twink

MADE BY THE MAKERS OF LUX

There are 18 *beautiful shades of* TWINK

Tw 10—29 T

LEVER BROTHERS LIMITED, PORT SUNLIGHT.

A. C. COSSOR & SON

(Established 1859)

The "Accoson" Clinical Thermometers

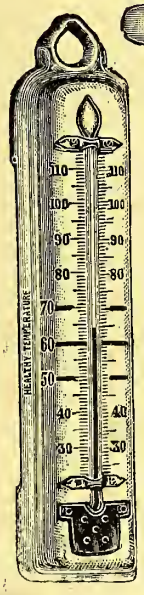
GOVERNMENT CERTIFIED.

Manufacturers of Clinical Thermometers for over 60 Years.
Contractors to all the Government Departments.



PATENT







THE "ACCOSON"
Aseptic Clinical Thermometer

(Patent Pending No. 6280).

Many attempts have been made to supply an aseptic clinical thermometer. It must be apparent to anyone that the possibility of infection by the clinical thermometer is a most serious defect in its use. There is only one method of making a clinical thermometer aseptic, and that is by immersing that part of the clinical that enters the patient's mouth in an aseptic wash. The "Accoson" Thermometer supplies this want. An aseptic fluid, say 5 % solution of carbolic acid, or any other aseptic fluid is put in the case to the red line, just above the bulb portion, when the cap is screwed down and the nickel silver spring depressed, the bulb and lower portion is immersed in the aseptic fluid. The stem can be washed by the aseptic fluid, but does not remain in the fluid, thus avoiding the possibilities of defacing the marking on the stem.

The "Accoson" Aseptic Clinical Thermometer is elastically supported between a spring and a soft pad within a cap. When the cap is unscrewed the clinical rises out of the case so that it can be readily withdrawn. We are confident in saying that this is perfection in casing of clinical thermometers, perfectly aseptic, elastically suspended, and no wool packing.







THE ORIGINAL PATENTEES of the EASY-SET CLINICAL.

We manufacture on Up-to-date Lines. Share with us the benefits.
Buy the Best Instrument at the Lowest Price. *Catalogue on application.*

"Accoson" Works, Vale Road, London, N. 4

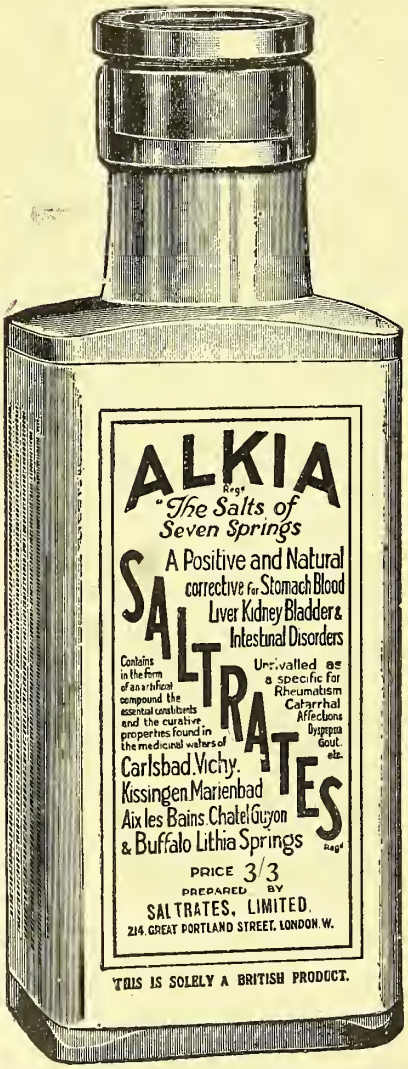
Telephone : 1880 Tottenham. *Telegraphic Address : "Fracosson, Phone, London."*

CONVINCING PROOF of

No other preparations in the World

ALKIA SALTRATES &

The acme of perfection in Salines. Nothing better for Liver, Kidney, Stomach, Blood and Intestinal disorders.



Protected on P.A.T.A. at the full face value of **3/3** a large bottle.

A FEW OF THE
OF ALKIA SALTRATES AND
who have written us praising these

HORATIO BOTTOMLEY
Eminent Statesman and Editor.
GEORGE ROBEY
World-Famous Comedian.
SIR HARRY LAUDER
Famous Scotch Comedian.
A. F. (Peggy) BETTINSON
Founder & Mangr. Nat. Sporting Club.
EUGENE CORRI
World-Famous Referee.
C. H. HOGSFLESH
Official Handicapper A.A.A.
***JIMMY WILDE**
World's Champion Boxer.
GEORGES CARPENTIER
Heavyweight Champion of Europe.
BILLY (Bombardier) WELLS
Famous Heavyweight.
JOE BECKETT
Heavyweight Champion of Great Britain.
FRED FULTON
Renowned Heavyweight.
EDDIE McGOORTY
World-Famous Middleweight.
JIM SULLIVAN
Ex-Middleweight Champion of England
JOHNNY BASHAM
Welterweight Champion of Europe.
YOUNG HEALY
Well-known Featherweight.
T. DESCAMPS
Trainer & Mangr. to Geo. Carpentier.
TED LEWIS
Trainer and Manager to Jimmy Wilde.
***TOM PAYNE**
Champion Walker.

The stars (*) above indicate famous athletes who are

ALKIA SALTRATES

A widely advertised and quick selling product, which represents the maximum of possible efficiency in a saline, and the best value obtainable for the money. Being highly concentrated, exceptionally small doses are sufficient, and there is no trace of any salty or other unpleasant taste.

YOU CAN STOCK THESE GOODS ON GUARANTEED SALE TERMS.

Carriage paid in United Kingdom on orders for 3 dozen, which may be assorted. Handsome showcards of strong selling power sent free on request. Display them in your window, and attract extra business from our present extensive advertising campaign.

SUPERLATIVE MERIT

have ever received such praise as

REUDEL BATH SALTRATES

The best of all bath preparations, either for medicinal or for general toilet use. Banishes corns, stops pain, softens water, clears the skin.

PROMINENT USERS

REUDEL BATH SALTRATES

products in the highest possible terms.

*H. V. L. ROSS
Champion Walker.

*E. C. HORTON
Champion Walker.

*JACK DONALDSON
Champion Sprinter.

*W. R. APPLEGARTH
Champion Sprinter.

*W. G. GEORGE
Champion Runner.

*ALFRED SHRUBB
Champion Runner.

*C. W. HART
Champion Runner.

J. E. DEAKIN
Champion Runner.

*ERNEST BARRY
World's Champion Sculler.

*ALFRED FELTON
Warld's Ex-Champion Sculler.

*W. G. EAST
Cambridge Coach for 30 years.

G. ROGERS
Australian Champion Sculler.

ARTHUR NIGHTINGALE
Famous Jockey and Trainer

*W. J. BAILEY
World's Champion Cyclist.

*HARRY MARTIN
World's Champion Motor-Cyclist.

J. B. HOBBS
Famous All-England Cricketer.

*PETER LATHAM
Professional Tennis Champion.

ABE MITCHELL
The Great Golfer.

present or past holders of World's Championships.

REUDEL BATH SALTRATES

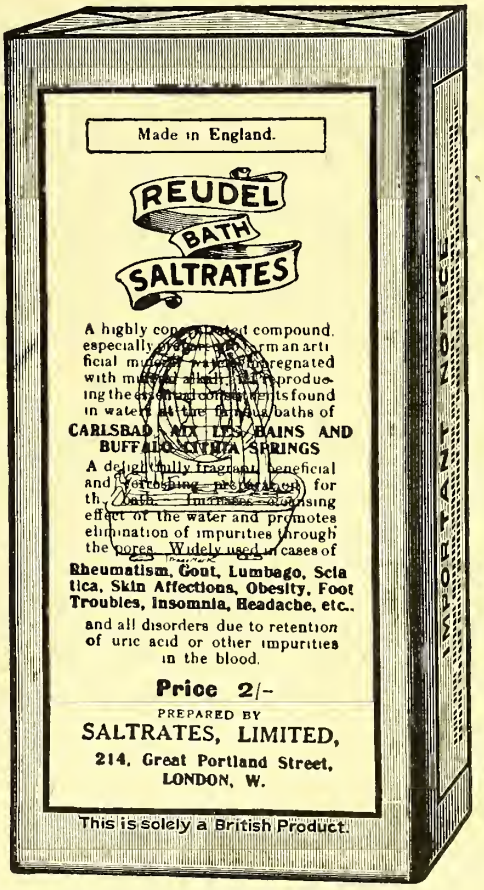
The best selling and most fragrant, refreshing, beneficial and all-round satisfactory preparation for the bath or for general toilet purposes.

Especially recommended in cases of foot trouble or rheumatic pains, stiffness, etc. Now being extensively advertised.

We can guarantee immediate delivery of orders for any quantities.

We are fortunate in being able to announce that foresight shown in the laying-in of very heavy stocks of supplies in anticipation of the shortage which afterwards developed, ***still enables us to guarantee full and prompt delivery of orders for any quantities.***

In Two Sizes. Half-pound and one-pound Packets.



Protected on P.A.T.A. at the full face values of **2/-** and **3/3** (double size).

"Vaseline" SPECIALITIES

AS STAPLE AS

"Vaseline"

PETROLEUM JELLY

You have carried "Vaseline" Petroleum Jelly ever since you've been in business. It is as much a part of stock as castor oil or tooth powder.

The **"VASELINE"** Specialities have the confidence of the public because of the Trade Mark name of **"VASELINE"** which they carry. They are reliable as the original **"VASELINE"** petroleum jelly itself.

Stock, recommend, and sell these **"VASELINE"** Specialities, and build up the confidence of your customers.

"VASELINE" CAPSICUM Jelly
—for chest colds and congestion.

"VASELINE" CARBOLATED Jelly
—for cuts and burns.

"VASELINE" EUCALYPTOL Jelly
—for head colds, influenza and gnat bites.

"VASELINE" MENTHOLATED Jelly
—for headaches, neuralgia.

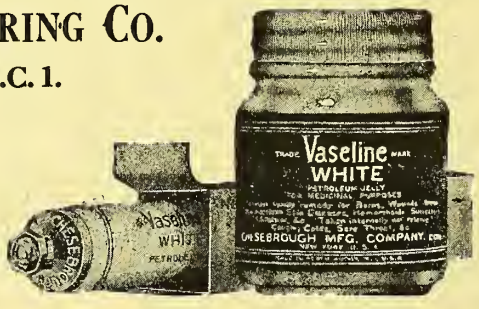
"VASELINE" HAIR TONIC

"VASELINE" CAMPHOR ICE

Showcards will be sent on application.

CHESEBROUGH MANUFACTURING CO.
42 HOLBORN VIADUCT, E.C. 1.

For other Specialities see our price list. Post free on application.





THE TOILET TRIO.

CONTINUOUS ADVERTISING BRINGS

CONTINUOUS BUSINESS
READY SALES
RAPID TURNOVER.

ASSORTED CUTICURA PARCELS

CARRIAGE PAID IF OVER £5.

ASSORTMENT No. 1 :

6 doz. Cuticura Soap ...	at 10/-	£3	0	0	Minimum Retail, 1/-	=	£3	12	0
2 doz. Cuticura Ointment	at 12/6	1	5	0	Minimum Retail, 1/3	=	1	10	0
½ doz. Cuticura Ointment	at 25/-	0	12	6	Minimun. Retail, 2/6	=	0	15	0
1 doz. Cuticura Talcum ...	at 10/-	0	10	0	Minimum Retail, 1/3	=	0	15	0
		£5	7	6		Sells for	£6	12	0

SHOWCARDS & PACKAGES FREE. N.B.—PROTECTED PROFIT on outlay is over 22½%

Price Lists and full particulars of other assortments on application.

FRANCIS NEWBERY & SONS, LTD.

SOLE DISTRIBUTING AGENTS FOR "CUTICURA."

CHARTERHOUSE SQUARE, E.C.1 ; 117 CENTRAL STREET, E.C.1 ; and CARDIFF.

Finest BLACKS and COLOURS

(ALL SHADES)

Soluble in Water, Spirit, Oil, Turps, Benzoline, Glycerine, Wax, Naphtha, Petroleum, Creosote, in fact — anything.

BLACK
FOR INK.

MARKING INK.

ETERNITE
Combined Preservative and Stain for Wood.

HOUSEHOLD DYES.

CARAMEL COLOUR
in Powder.

Guaranteed Harmless.

50 times the concentration of Liquid Caramel.

RHEUMSOL BATH SALTS in 1/- tins

WILLIAMS BROS. & CO.

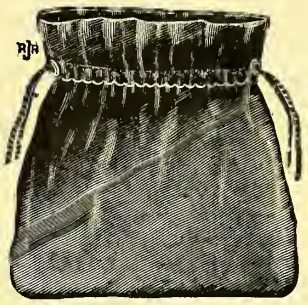
HOUNSLOW, MIDDLESEX.



R. J. REUTER,

69 CARTER LANE, LONDON, E.C. 4.

Telegrams: "Refreshing, Cent. London."
Telephone: Central 4461—4462.



A few Leading Lines.

HOLDALLS.

(Our own Manufacture.)

Roll-up Toilet Tidies—150 Patterns and Designs.



SPONGE BAGS.

(Our own Manufacture.)

Large Selection, Exclusive Designs.



POWDER PUFFS.

(Our own Manufacture).

Over 450 Sizes and Designs.

PUFF BOWLS.

A Speciality—A Large Selection.



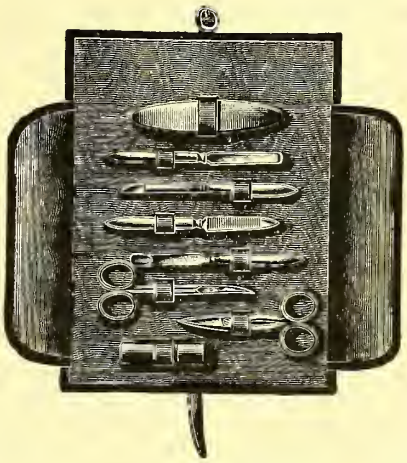
MANICURE CASES.

Roll-up or Box Patterns.
Over 320 Numbers to select from.

(Our own Manufacture.)

MANICURE REQUISITES.







IT WILL PAY TO VISIT OUR SHOWROOM.

A few reasons

why the pharmacist should stock and push P., D. & Co.'s protected specialities.

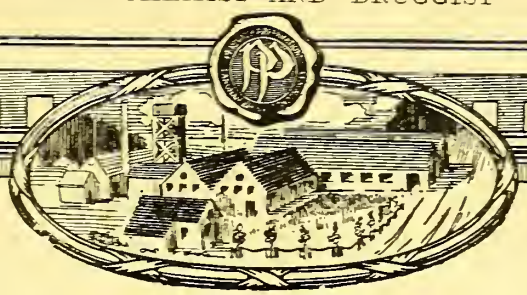
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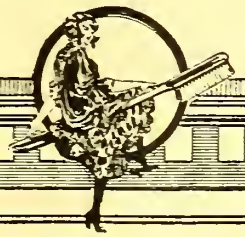
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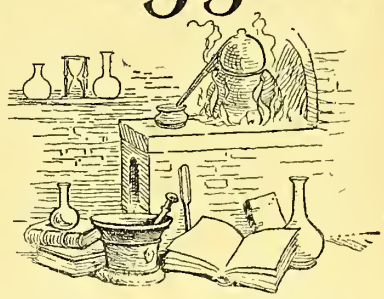
The Chemist & Druggist



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VOLUME XCIV.

THIS number concludes Volume XCIV., covering the first half of the year 1921. An index for the volume is in preparation, and will be published shortly. Copies will be sent post free to all who send us post-card requests.

Coming Events.

Thursday, June 30.

North London Pharmaceutical Association. Annual outing (whole and half-day). There are a few seats left for the half-day excursion. Tickets 14*s.* each, including high tea. Apply for tickets, Mr. H. Skinner, Ph.C., G.N.C. Hospital, N. 7.

London (Western) Pharmacists' Association. Lancaster Gate (Central London Railway) Station. Motor-coach tour, at 2.30 P.M., round Maidenhead, Windsor, Virginia Water, and Staines. High tea at the Thames Hotel, Maidenhead. Tickets (10*s.* 6*d.* each) from any member of the Committee.

BIRMINGHAM PHARMACEUTICAL ASSOCIATION.—The annual excursion will be held on July 6, when Bidford-on-Avon will be visited. Motor charabancs start from Queen's College, Paradise Street, at 2 P.M. High tea at Holland's Pleasure Gardens, Bidford. Tickets (12*s.* each), not later than June 27, from the Secretary. Those making other arrangements for the journey may obtain tickets for tea only (5*s.* 6*d.* each).

English and Welsh News.

The Editor would be obliged if subscribers would send him marked copies of newspapers containing items of interest for insertion in this or other news sections of the "C. & D."

Export Credits.

With the object of assisting traders to finance their export business the Government are offering extended facilities under the exports credit scheme to cover trade with all parts of the British Empire, including British Protectorates and mandated territories, with the exception of India, Ceylon, and British possessions in the Far East. In addition, the scheme is now applicable to Finland, Latvia, Esthonia, Lithuania, Poland, Czecho-Slovakia, the Serb-Croat-Slovene State, Rumania, Georgia, Armenia, Bulgaria, and Austria and Hungary. No provision is made for trading with Germany or Russia. The Government are now prepared to guarantee, with certain conditions, drafts drawn against shipments of goods from the United Kingdom to the countries named. These guarantees will be given to an extent not exceeding 85 per cent. of the total amount of the bill of exchange drawn against the shipment. Applications for guarantees should be made by exporters to the Export Credits Department, 73 Basinghall Street, London, E.C. 2, on forms which may be obtained from the department.

Birmingham.

The increased subscription to the local association is being severely criticised.

Two local businesses, one situated in the central area, have recently been advertised for sale.

The pharmacy students of the municipal technical school will celebrate the closing of the session on June 29, when a well-known pharmacist will preside. All arrangements are in the hands of Mr. H. Berry, Ph.C.

The consecration and installation of R. Alchemy Chapter, No. 3950, took place in the Masonic Hall on June 15, under the auspices of the Provincial Grand Chapter of Warwickshire. The following are among the principals and officers: Ex-Comp. Maurice Smith, P.Z. 377, P.P.G. A. Soj. Worcs. (S.W. and Master-Elect of the Lodge), as Z. of the Chapter; Ex-Comp. F. C. Harvey Foster (Secretary of the Lodge), as H.; Ex-Comp. J. W. Shields (J.W. of the Lodge), as J.; and Comps. T. Barclay, S.N., A. W. Gerrard, Treasurer, C. E. Ison, Asst. Soj., J. Robinson, W. E. Hipkiss, C. L. Moores, and G. Knowles as Stewards.

Liverpool.

Mr. John H. Robinson, one of the Liverpool delegates to Scarborough, is spending a week at Windermere.

Many suburban pharmacists are affixing permanent, in place of printed, notices of the rather complex and not uniform hours of opening and closing.

The Liverpool delegates were pleased to renew at Bridlington the acquaintance of Mr. E. B. Brigham, Ph.C., who formerly carried on a pharmacy in Lark Lane in this city.

Much interest is being taken in the *C. & D.* report of the Pharmaceutical Conference at Scarborough. The family to which Alderman Meredith T. Whittaker belongs is well known in temperanee circles here, and his worship's reference to "vendors of patent medicines" has awakened vivid recollections.

Free from the trammels of office, Mr. H. Humphreys Jones and Mr. W. J. Williams, his right-hand man of last year, have this year been enjoying their freedom at the Scarborough Conference. An amusing feature of Mr. Humphreys Jones's clever speech at the closing proceedings—a speech which evoked the suggestion that he should be appointed humorist to the Conference—is that he has become known in Liverpool, by reason of numerous courtesy attendances at funerals, as "the professional mourner."

Scarborough.

Several columns were devoted to the proceedings of the Conference by "The Scarborough Evening News," "The Scarborough Mercury," and "The Scarborough Weekly Post."

Mr. and Mrs. George Whitfield have issued invitations to all the members of the local Committee to a dinner, to be held in the Queen's Hotel on June 30, by way of celebrating the conclusion of the Conference.

Miscellaneous.

Cost of Living.—It is announced in "The Labour Gazette" that, on June 1, the average level of retail prices of all the commodities taken into account in Ministry of Labour statistics was 119 per cent. above that of July 1914, as compared with 128 per cent. on April 30 and 176 per cent. on November 1, 1920.

Poison-licence Applications.—An application for a licence under Section 2 of the Poisons and Pharmacy Act, 1908, has been made to the local authority by Robinson & Green, St. Mary's Street, Stamford.—Devon County Council has recently renewed fifteen licences for the sale of agricultural and horticultural poisons.

Fires.—There was a slight outbreak of fire, on June 19, attributed to a light being thrown down, on the premises of Eugène Rimmel, Ltd., perfumers, 81 Strand, London, W.C. The damage was not extensive.—A large number of cases of wood oil were damaged by fire, on June 16, on the premises of J. W. Cook & Co., Ltd., wharfingers, Millwall Wharf, Poplar, London, E. 14. The cause of the outbreak is unknown.

Wellcome Physiological Research Laboratories.—The Ministry of Health has sanctioned the use of Langley Court, Beckenham, for physiological research. It will be remembered that, owing to a local agitation, an inquiry was held by the Ministry of Health as to risks which would be involved to the inhabitants. Several questions on the subject have also been asked in the House of Commons. It is stated in "The Times" that Mr. H. S. Wellcome paid 30,000*l.* for the estate, and that he has since spent thousands of pounds in constructing the laboratories.

Safeguarding British Industries. — The British Chemical Trade Association, 80 Fenchurch Street, E.C. 3, in their latest Bulletin, dated June 23, deal at length with this Bill. The Association is pressing, through their Parliamentary Committee, for a definite list of products to be published prior to the legislation being put into force. Inquiries in official quarters elicit the reply that they do not know themselves yet what products such clauses as "all synthetic organic chemicals" or "all other fine chemicals" will govern. It can, however, be definitely stated that zinc oxides and lithopone will not come under the "key" section. Potashes are uncertain, but it is assumed that only the refined products will be affected. Since writing the above the Association understands that the Board of Trade have decided to issue a definite and specified list of the fine chemicals which will be affected by the Bill.

To "The Observer" of June 19, Mr. Percy Dunn, F.R.C.S., has contributed an article on the Wellcome Historical Medical Museum.

Irish News.

Brevities.

Mr. A. F. Collins has been appointed compounder for the North City No. 2 Dispensary (Lisburn Street) of the Dublin Union.

On June 16 two casks and their contents consigned from a wholesale firm of druggists in Dublin to a chemist in Enniscorthy were taken from the railway goods store at the latter place by three young men and destroyed by fire. A note referring to the Belfast trade boycott was left near the scene.

At a meeting of the Athy Board of Guardians it was announced that Boileau & Boyd, Ltd., Dublin, had been placed on the "black list." The Chairman: "In connection with the Belfast boycott? I suggest we write to them and find out what they intend doing. We cannot take their medicines if they are on the 'black list.'" It was decided that the contractors be written to.—Boileau & Boyd, Dublin, were appointed medicine contractors to the Cashel Board of Guardians at a discount of 15 per cent., and Fielding's Pharmacy, Cork, were declared medical and surgical appliances contractors at 18 per cent.

Northern Chemists' Special Meeting.

A special meeting of Northern pharmacists was held in the rooms of the Chemist and Druggist Society, 11 Waring Street, Belfast, on June 15, to consider impending action of registered druggists under the Government of Ireland Act and Draft Regulations of the Dangerous Drugs Act. Mr. James Guiler occupied the chair, and there was a fair attendance. After the minutes of the Executive Committee since its inception were read as well as correspondence from the Pharmaceutical Society and solicitor, Mr. Meeke, Mr. J. A. Bingham said that it had just come to their knowledge that the Chemist and Druggist Society had decided to put their views and grievances before the Council of the Pharmaceutical Society, therefore no action was necessary at present. A lengthened discussion then followed, in which Messrs. Wilson, Bingham, Howe, Culbert, McDonald, Hardy, Tate, Guiler, and Crail took part. The following resolution was adopted: "That all resolutions, recommendations, and negotiations be declared off, and that we express confidence in our representatives on the Council to defend our status and qualification; also that nothing further shall be done in this matter until a referendum of the pharmacists of Ireland shall have been taken."

Scottish News.

Fife.

The windows of the premises occupied by Mr. Fraser, chemist and druggist, Lumphinnans, Fife, were broken during the recent industrial disturbances in the district.

Mr. Walter Stavert, F.S.M.C., chemist and druggist, gave a short address, on June 16, before the members of the Kirkcaldy Rotary Club, of which he is secretary, on the defects of human vision and their correction.

A quantity of Epsom salts was put in the soup boiler at the communal kitchen at Woodside on June 15. The soup was not distributed on that day. It will be recalled that a similar thing occurred at Cowdenbeath recently.

Glasgow.

The agitation concerning chemists' night bells appears to be spreading to this city.

Mr. G. S. Kitchin skipped a rink (Titwood) against the New Zealanders on June 16. The Colonials won by 11 shots.

The names of some local chemists have appeared in the list of prize-winners in the recent slogan competition organised by D. & W. Gibbs, Ltd.

Wainstein & Yuill, chemists, Dalmarnock Road, have dissolved partnership. The business is now being carried on by Mr. Stephen Yuill, chemist and druggist.

Inquest on Sir A. Newton.

AN inquest on the body of Sir Alfred Newton, senior alderman and an ex-Lord Mayor of the City of London, was opened by the coroner for the South-Western district on June 22. In outlining the case before witnesses were called, the coroner said that Sir Alfred had been taking a mixture prepared from a doctor's prescription. "The prescription was of an innocent kind," the coroner proceeded; "that is to say, there was nothing poisonous in it." According to the evidence of the deceased's eldest son, the mixture contained 10 gr. of "bismuth" and 10 gr. of sodium bicarbonate. Mr. Maurice S. Saloman, B.Sc., F.C.S., Mark Lane, E.C., stated that he had analysed a sample of medicine submitted to him by Harrods, Ltd., and had found it to contain $\frac{7}{10}$ gr. of strychnine per fluid ounce. A fatal dose of strychnine was about $\frac{1}{4}$ gr. He had never heard of anyone mistaking strychnine for sodium bicarbonate. Answering Mr. Curtis Bennett, witness said he had tested the ingredients used in the preparation of the medicine, and was satisfied that there was no trace of strychnine in any of them. Harrods' dispensary department was thoroughly up to date, and all poisons were kept on separate shelves. The ingredients used in this case, being non-poisonous, would be in plain white bottles, while strychnine would have been in a green fluted bottle. Mr. Temple Martin, for the dispensary, asked if witness thought that strychnine was put in by mistake in any way. Witness replied in the negative. Bertha Andrews said she was a widow, of 46 Dulwich Road, and "a qualified dispenser, holding a certificate issued at Apothecaries' Hall." She had made up Sir Alfred's prescriptions before. There was always a double check made on all prescriptions before they left the dispensary. Poisons were never kept on the dispensing benches. She could not account for the presence of strychnine in the medicine. There was no strychnine in the dispensary on that day except powdered strychnine, kept in the poison cupboard. Dr. Robert Donaldson, pathologist at St. George's Hospital, who said he had made a *post-mortem* examination of the body, stated there was no external appearance to suggest that death occurred during spasms. The heart was in such a state that death might have ensued at any time. The inquest was adjourned to June 30.

Poisoning Case.

AT Beckenham, on June 15, the inquest, which had already twice been adjourned, on Dora Manktelow, a grocer's wife, was further adjourned. Mr. John Webster, of the Home Office, testified to finding arsenic in a portion of the liver; proportionally the amount contained in a normal liver would have been over 1 gr. Mr. C. Manktelow, a brother-in-law, stated in evidence that he had been in possession of weed-killer and rat-poison: several persons had told him that the deceased had threatened to commit suicide. A verdict of "Suicide during temporary insanity" was recorded when the inquest was resumed on June 22. Mr. G. H. Mack, chemist and druggist, Penge, said that the deceased's husband called at his private house about 5 P.M. on May 22 and asked whether he could be supplied with a bed-pan. Witness supplied him with the pan, and Mr. Manktelow then asked if he could give him something that would relieve his wife. He gave him a mixture containing bismuth, chalk, essence of peppermint, and sal volatile. There was no arsenic of any kind in it. "If she had drunk the whole lot at once," added witness, "it would not have hurt." Mr. John Webster deposed to receiving, from the police, a tin containing weed-killer in the form of a pink powder, which was composed of 55 to 60 per cent. of ordinary white arsenic. He had also received an envelope enclosing 100 gr. of a preparation similar to the weed-killer. In returning their verdict the jury expressed the opinion that they considered that Mr. C. Manktelow was neglectful in leaving weed-killer about, having regard to the state of his sister-in-law's health.

Legal Reports.

Sale of Glauber's Salt.—A case stated under the Arbitration Act came before Mr. Justice McCardie in the King's Bench Division on June 17. The parties concerned were Horace Battin & Co., Ltd., Fenchurch Avenue, London, the sellers, and Cowan Bros., Ltd., Crutched Friars, London, the buyers, of a quantity of Glauber's salt, the interpretation of the contract for which was in dispute. Mr. O'Hagan, for the sellers, Horace Battin & Co., Ltd., said his clients were the applicants in that case. The respondents were not represented, and had intimated that they would accept the findings of the arbitrators. The two points raised in the arbitration were: (1) Were the goods up to description? (2) Had the buyers any right to reject? The arbitrators decided against his clients on the first point, and in their favour on the second. In deciding that the buyers had lost the right to reject, the arbitrators decreed that the buyers should take the goods at a reduced price. Counsel's clients had always stood by that decision, and now claimed judgment according to the award. His lordship granted judgment in accordance with the terms of the award.

Camphorated Oil Case.—At Wimbledon Petty Sessions, recently, Mr. William Bowden, chemist and druggist, 62 Hill Road, S.W., was summoned for having sold camphorated oil which, on analysis, was found to contain The Turner Drug and Galenical Co., Ltd., Roden Street, 17.5 per cent. of camphor and 82.5 per cent. of olive oil. Ilford, were summoned for aiding and abetting. Evidence given for the defence showed that the wholesalers' invoice was stamped with the letters "P.B.," and Mr. William Johnston, Ph.C., ex-secretary of the Chemists' Defence Association, Ltd., stated in the witness-box that the letters in question were recognised as conveying the information that articles to which they were affixed were in accordance with the requirements of the British Pharmacopœia. The case against Mr. Bowden was dismissed. In the case against the Turner Drug and Galenical Co., Ltd., it was contended that before anyone could be charged with aiding and abetting there must be a conviction against the person or persons aided and abetted. In that case there was no conviction of the principal, and therefore there could be no aiding and abetting. For the prosecution it was contended that in such cases all the parties were principals. The Bench decided to dismiss this case also.

Commission Claim.—In the Rochester County Court, on June 22, Mr. W. L. Towers, chemist and druggist, Chatham, sued Mr. F. Green for 25*l.*, the balance of dentistry profits. Mr. W. A. Watson, for Mr. Towers, said the plaintiff had dental rooms at his place of business, and his custom had been for many years to allow a dentist or dental mechanic the use of these rooms, together with gas, water, and all accessories, on the payment of 25 per cent. of the takings. The defendant entered into such an arrangement with the plaintiff in February 1919. The business was so lucrative that at the end of twelve months he had paid over to the plaintiff as his share of the takings 180*l.* In February 1920 a disagreement arose as to who should pay 10*l.* a year for an electric sign, and the defendant left. The plaintiff claimed that he was entitled to 25 per cent. on the orders taken at his shop, whereas the defendant contended that he was entitled to only 25 per cent. of the money received. Mr. Towers having given evidence, the defendant, in the witness-box, said he had pressed for an agreement in writing, but had been unable to obtain it. He did not consider plaintiff was entitled to anything on orders received at his shop before the end of February 1920, and on which deposits had been paid, because to complete the orders since he (defendant) had had to pay rent. His Honour held that plaintiff was entitled to 25 per cent. on all orders received at his shop, but said that all payments of balances to the defendant would have to be strictly proved.



Pharmaceutical Society's Dinner.



Neither the lapse of twelve years since the Pharmaceutical Society's previous annual dinner nor the ordeal of the war was, perhaps, quite so considerable a factor in imparting a special character to the dinner given by the Society at the Connaught Rooms, London, W.C., on June 21, as the incidence of the test case. The dinner itself was worthy of the best traditions of the Connaught Rooms—and they are very good indeed—and the chief table was occupied by guests of unusual eminence, among whom were two old friends of the Society, Sir William Willcox and Sir Richard Winfrey. It was announced that Lord Dawson of Penn, who was to have sat immediately on the left of the President, had sent apologies for absence. The after-dinner entertainment was contributed to by a quartet of vocalists, with Mr. H. Wharton-Wells, B.Mus., as accompanist; Mr. T. C. Sterndale-Bennett in some of his deftly written topical songs; and Mr. W. Churcher in a recitation. A brief inspection of the list of diners indicates that the total of ninety-eight is made up as follows: Distinguished visitors, sixteen; officials of the Society (including examiners), twenty-six; representatives of wholesale interests, twenty; pressmen, ten; private members (including one lady, Miss Horniblow), twenty-six. The following were among those present:

Distinguished Guests: Mr. A. E. Ball, L.D.S., Sir Anthony Bowlby, K.C.B., Mr. A. Chaston Chapman, F.R.S., Mr. Alfred Cox, M.B., Surgeon Vice-Admiral Sir Robert Hill, K.C.M.G., Mr. Henry Jackson, M.B., Mr. J. D. Kiley, M.P., the Rt. Hon. Sir Alfred Mond, Bt., M.P., Lieutenant-Colonel N. H. Mummery, M.R.C.S., Sir David Prain, C.M.G., F.R.S., Sir Arthur Robinson, K.C.B., Colonel O. L. Robinson, C.M.G., Sir William Tilden, F.R.S., Mr. E. B. Turner, F.R.C.S., Sir William Willcox, M.D., and Sir Richard Winfrey, M.P.

Members of Council and Officials: Mr. F. E. Bilson, Mr. J. P. Gilmour, Sir William Glyn-Jones, Professor H. G. Greenish, Mr. John Keall, Mr. A. R. Keith, Mr. T. Edward Lescher, Mr. A. R. Melhuish, Mr. E. J. Millard, Mr. E. T. Neathercoat, Mr. W. H. Quarrell, Mr. P. F Rowsell, Mr. H. Skinner, and Mr. E. White.

The Speeches.

After the loyal toast had been honoured,

The Right Hon. Sir Alfred Mond, M.P., Minister of Health, proposed the toast of "The Pharmaceutical Society of Great Britain." He said: I have very great pleasure indeed in proposing this toast. You are a very old Society, and I gather that you go back, not to three-score years and ten, but to three-score years and twenty, which is ten years above the Biblical age for the life of man, and a respectable age for any society. I hope that when you have reached double that age you will be an even more flourishing institution than you are to-day.

I am here in the capacity which I have the honour to hold as head of that great Department, the Ministry of Health. Of course, we all know that for the purposes of health there are people, like surgeons, doctors, and dentists, who occupy themselves with the subject of endeavouring to preserve the health of the community; but what would their services avail, or how would their patients benefit, if it were not for the members of the Pharmaceutical Society, who are able to decipher those hieroglyphics which may mean much or nothing at all—(laughter)—and for which we pay large sums in ignorance in the hope that they may do us good? (More laughter.) Your functions in the world of health are of great and vital importance, and your Society, which has done so much to assist in promoting and keeping up the high standard of your profession, acts with the greatest utility in the world of health in which I now have to mingle.

Societies such as yours, regulated and ordered by the members of the profession themselves, disciplined by their own high standard of duty and honour, and regulating research with the perfect ability with which you do the affairs of the pharmaceutical world, render very great assistance to the Government. The assistance you have rendered in enabling the great Health Insurance scheme to be the success to which it has attained is no less noteworthy. Your Society came very largely to the assistance of the State, and through the State to the assistance of the community. There are very many matters, methods, and subjects in which we and you are interested. One of these, not altogether free from controversy, but of importance, is the subject of legislation dealing with proprietary medicines. We are under a great obligation to members of your Society who sat on a Committee which helped us in the preparation of the Bill which, unfortunately, has lapsed. All their labours have not been wasted, however, for it is only postponed for resurrection in times of less anxiety and greater leisure. Your duties do not get lighter, but heavier, and the Pharmacopœia expands year by year, although I have been informed that there are only six drugs that do anybody any good. (Laughter.) But your duties are becoming more complex, and the amount of knowledge, science, and skill you have to display is becoming considerably larger even than it used to be.

During the war we had to apply ourselves to the production of pharmaceutical products which we used to import before the war, and it is to the credit of those firms which tackled with such resolution some of the great chemical problems and processes involved in the production of complicated organic and inorganic bodies. I think, on the whole, we have every reason to be proud of what British chemical science did in those years of war. (Hear, hear.) There has been a good deal of criticism of the Key Industries Bill, but we are endeavouring to do something to assist those who went to so much labour and trouble during the war, and who are faced with the competition which has recommenced.

Well, the importance and utility of your Society I do not think anyone can doubt, and that it will grow and develop is the wish not only of its members, but of those who are responsible for the health of the country. Health, after all, is a very fundamental thing, and we appreciate, I think, its importance more from year to year; and the more, of course, our civilisation has become complex and difficult, the more the study of health has become necessary for the future welfare of the race. There may have been a time when the human race had no ailment, but I somewhat doubt it. But when they had ailments they had to get through them as best they could, and only those who were so strong as to be able managed to survive. That was a somewhat wasteful process, and yet it is going on now, because illness is not only a menace to its surroundings, but also an economic waste to the community. I do not know whether anybody has ever worked out what is the economic loss to the community caused by illness, but if they did I think it would be found to be a staggering figure. Therefore all who are working for the maintenance of the health of the country are not only working for their own profit—although I hope this is, even in these days, satisfactory to your Society—

but are assisting to a very large extent in the most important functions which the country can carry on.

The Ministry of Health is a new-born child, and the allowance for it is somewhat scanty. The supply of nutrition is scarcely adequate to its growth. To stop it dying from rickets and get it into a condition in which it can be presentably brought up and take the position of a prize child is the task I have to do. I and the officers who work with me intend to do all we can with as little money as possible to effect as great a result as possible. (Applause.) A good deal can be done in this country by people who work and think for the nation and place their energies and resources at the country's disposal. I therefore trust that we shall see no falling off in our endeavours, and that the good work which has been begun will go on flourishing. I feel certain that I can rely upon the members of your Society to support me as they did my predecessor in the past. (Applause.)

WHAT THE SOCIETY HAS DONE.

The PRESIDENT, in responding, expressed appreciation of the fact that the Minister of Health had honoured the Society with his presence. He (Mr. Neathercoat) had often thought that the man in the street knew very little of the work the Society had been doing during the last eighty years, and certainly did not realise the asset this country possessed in the members of the Society, who every day of their lives were carrying out most important functions in connection with the health of the nation. After a brief sketch of the functions of the Society, Mr. Neathercoat said that from the School of Pharmacy, under the direction of Professor Greenish, a very large number of properly trained pharmacists were being sent out for the service of the community. From that School men had also gone into other branches of science and medicine, many of them with conspicuous success. The Society had given large sums of money for the purpose of pharmaceutical research, while it had maintained a library, museum, and research laboratory. During the war the Society was placed at the service of the Government, and had done splendid work, and he was glad to hear from Sir Alfred Mond that the work had been of great service. Turning to the question of the supply of medicines and surgical appliances to the Forces, the Society had for many years been urging Government Departments, and especially the War Office, that it was vitally necessary for something in the nature of a pharmaceutical corps to be formed, such as had existed for many years in Continental armies. Towards the end of last year the Army Council set up a Committee representing the War Office and members of the Society, with a reference directing them to inquire as to the position that pharmacists should occupy in the Army, and make recommendations to the Society. That Committee had not yet issued its report, but he hoped that as the result of its deliberations a much-needed advance in the position pharmacists should occupy would be made, and that there would be a corresponding increase in the efficiency of the service. Certainly not all the lessons of the war would have been learned and acted upon until there were set up in the Army and Navy special sections, whether called a pharmacists' service corps or not, and pharmacists were given their rightful position and rank in peace and war. (Applause.) The relations between the Ministry of Health and the Society were cordial, although he did not wish Sir Alfred Mond to take it that the Society gave its unqualified approval to all the decisions of his Department. With regard to the proposed scheme for the provision of health centres, the Society was only too anxious to give all the assistance it could, and a revision of its Major examination was being undertaken with the object of seeing that the men who became pharmacists were properly trained for any function that they might be called upon to fulfil in the future. In concluding, the President said that he had no desire to touch unduly on controversial matters, but, as the Minister of Health had himself pointed out, pharmacists were kept fairly busy, not only by his Department, but also by other Departments, with legislative enactments, either threatened or actual. They had had a threatened Proprietary Medicines Bill and a more than threatened Dangerous Drugs Act. He wished to enter something in the nature of a protest against the filling in by certain Departments of skeleton Acts. The result was not always a fulfilment of the intention of the original Act. (Applause.) These things, of course, did not come from the Ministry of Health. The Society had had its own domestic litigation. It had had to fight its "test case," but he hoped that as the result of the decision the Society would be set free to devote itself more keenly and closely to the great objects embodied in its original Charter, and to develop more the scientific side of the profession. Pharmacists were closely interested in the question of the Pharmacopœia, and hoped that Sir Alfred Mond would see that in any future revision the Society's help was invited and recognised.

The toast of "Our Guests" was proposed by Mr. E. WHITE, who assured the Minister of Health that, particularly in any scheme of scientific research, the resources of the Society would be placed at the disposal of the Government. Mr. White referred to the worth and work of the guests individually, and paid a tribute in particular to Sir William Willcox for the courtesy with which he supervised the Society's examinations.

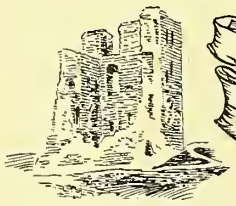
REPLYING FOR THE NAVY.

Surgeon Vice-Admiral Sir ROBERT HILL, K.C.M.G., D.G., Medical Department, Royal Navy, responding, said the Pharmaceutical Society was well known and respected throughout the whole of the medical profession. It had an old charter, and was a great safeguard against quackery. The Navy and the Pharmaceutical Society were very old friends; their historical association went back fifty years, for the Admiralty decided most wisely in 1870 that any pharmacist in the Navy must be qualified and recognised by the Society. He believed the Navy might claim the honour of being the first Government body to insist upon this regulation, and since that time it had not departed from that decision. "I was reading the other day," said Sir Robert, "that among the requirements to attain your qualification one must have a knowledge of the language of prescriptions. Now I feel some sadness as I think that the language of prescriptions is dying out. I remember my father teaching me that 'R' with a tail to it, and to put the proper Latin in my prescription. Various ingredients were put in and topped up with an extraordinary amount of water, and the patient took certain doses with a further quantity of water. (Laughter.) I used to pride myself upon my prescriptions, and I feel certain that you will agree with me that it is lamentable now to see such things as 'tab. aspirin, P.D.,' or 'tab. aspirin, B.W.'" (Laughter.) Sir Alfred Mond, Sir William went on to say, had dwelt upon the loss of work due to sickness. Some of it was preventable, and he hoped that, now we had a Ministry of Health, the health of the community would be more closely guarded. There was not the slightest doubt that when a body of men was disciplined, as those in the Army and Navy were, a great deal of disease could be controlled. They could only hope that through the efforts of the Ministry of Health, aided by the medical officers, the general community would be brought into some sort of line with the disciplined forces of the Army and Navy, and there would be a decrease in the lamentable loss of work through sickness in the future. (Applause.)

Sir ANTHONY BOWLBY, K.C.B., K.C.M.G., K.C.V.O., President of the Royal College of Surgeons, also responded, and said that a great debt was due to the pharmacists of the country for the manner in which they had seen that supplies were sent for use in France during the war. They were never short of any kind of drug. The French public were greater believers in drugs than the British: they loved a *tisane* or a proprietary medicine. In the course of further reminiscences, Sir Anthony recalled the systematic way in which the Germans collected flax-spinning machinery and other articles seized in the French factories, and, after tabulating them, sent them into various parts of Germany. They kept a book in which they entered the particulars of these machines, but lost it—(laughter)—and it proved invaluable at the end of the war.

The National Anthem ended the proceedings.

BRITISH PHARMACEUTICAL CONFERENCE



SCARBOROUGH



The Aftermath.

Too high praise cannot be given to the untiring efforts of the local committee. As an instance, each member of the Conference found in the official booklet a serial ticket of admission to the Scarborough Spa—a delicate courtesy that was much appreciated. By way of recognition, presentations were made to Mrs. Whitfield and Mr. and Mrs. Cross, with a minimum of formality, at one of the smoking concerts. Mrs. Whitfield received a basket of flowers, Mrs. Cross a handbag, and Mr. Cross a fountain pen.

* * *

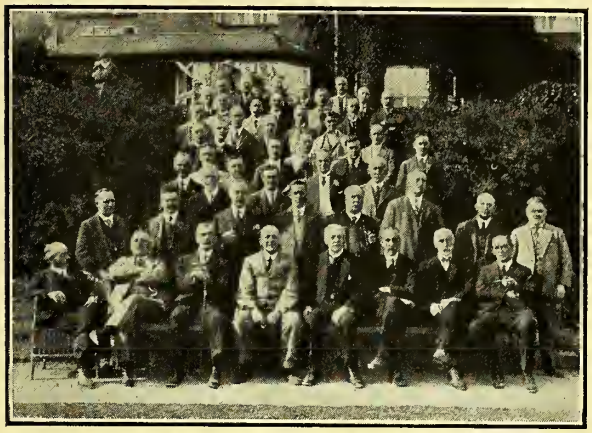
The prizes for the swimming match were: *Ladies*—(1) silver calendar, (2) Cutex set. *Gentlemen*—(1) vacuum flask, (2) sponge. The names of the winners were given in last week's issue of the *C. & D.* (p. 82).

* * *

The drive to Whitby on June 16 was as delightful a one as the oldest member of the Conference can recall. Dull indeed must have been those who did not feel a thrill as the little town first came into view at a distance of five miles or so. It was greatly regretted that Sir Richard Robinson's address of welcome prior to visiting the Abbey had to be omitted for want of time, particularly as the welcome accorded to the party by him and the Whitby pharmacists was of the heartiest. An official in charge of certain repairs now in progress gave, however, a lucid description of the main architectural features of the ruin, and was thanked by the President of the Conference in a few felicitous sentences. Mr. Cross did his best, unsuccessfully, to frown on the members who made time to wander into the quaint old church near by and to admire some of its rarities; but the digression had the useful effect of preventing a too crowded entrance into the tastefully appointed Royal Hotel. The luncheon was an excellent one, and was followed by a characteristic speech from Sir Richard Robinson. Sir Richard extolled, as might have been expected, the charms of Whitby as compared with those of Scarborough, raised frequent ripples of laughter by his asides, and eloquently eulogised the work of the Conference and of its President. Mr. Peck briefly replied, taking the opportunity of thanking Whitby pharmacists for their greetings and for their work on the local committee. The party promptly returned to the waiting charabancs, and, after Mr. Cleworth had held up the line for a few records, motored to Cober Hill, Cloughton, where tea was served in the charming grounds of the estate. The final section of the drive, by way of Hackness Hall and the Forge Valley, proved not less delightful in swiftly changing vistas than the earlier portions. A small number of the party was delayed on the return journey by a mechanical trouble, but eventually Scarborough was reached by everyone in time for dinner.



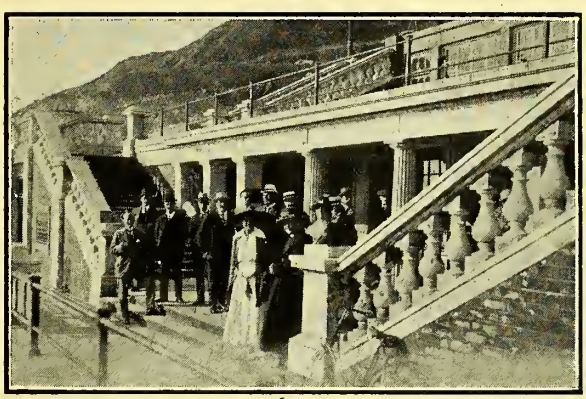
Group of Conference Visitors.
Photograph by H. L. Kettle, 18 Ramshill Road, Scarborough, who will supply copies at 5*s.* each, post free.



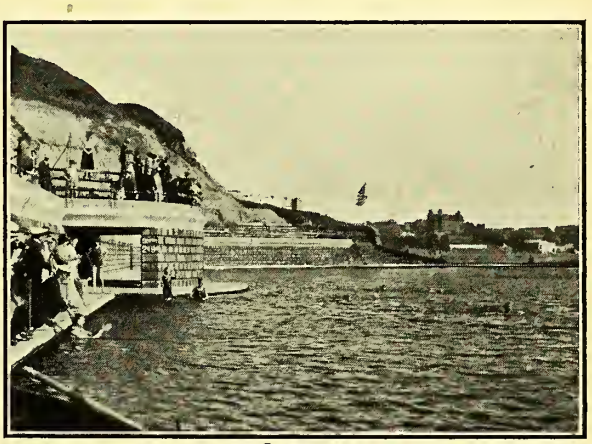
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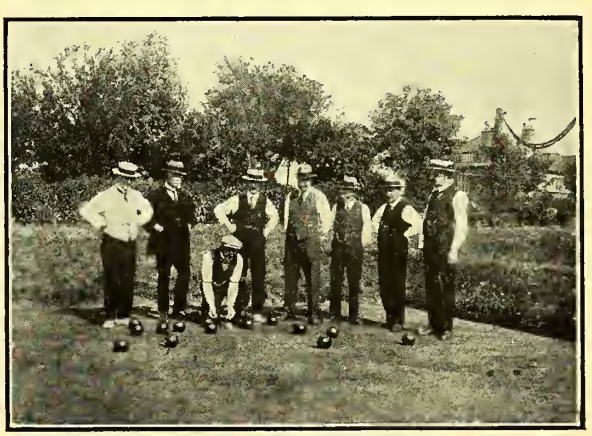
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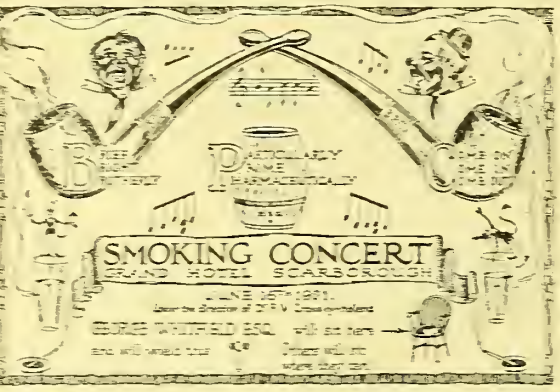
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If every trace of British shyness had not vanished before the second smoking concert was reached, it probably did not outlast that hilarious experience. It was generally agreed that Dr. Crossley-Holland surpassed himself as director of the ceremonies, and the chronicler hesitates between the alternatives of making this simple—and, to those who knew recent Conferences, sufficient—statement and the writing of several hundred words. By way of compromise, it may be indicated that the majority of those who contributed to the programme were visitors from a distance: that Mr. J. H. Franklin delighted the audience with "Sally in our Alley," and his daughter with a recitation from "David Copperfield"; that Mr. A. C. Keeton, B.C.O., accompanied brilliantly and with entire sympathy; and that the concert was not too lengthy. Dr. Crossley-Holland himself appeared in his old rôle of lecturer, with an historical sketch of Scarborough that reduced his hearers to helpless laughter. Later in the evening, aided and abetted by Mr. Cleworth with a massive camera and by a motley group of members with alleged musical instruments, he conferred on the chairman, Mr. George Whitfield, the Order of the Knights of Galen—the duties and privileges of which appeared to have very little connection with pharmacy—and on Mrs. and Miss Whitfield equally fitting recognition. A competition in guessing the provenance of scraps of melody concluded the programme. The winners were: (1) Miss Hughes (London), who guessed correctly in every instance; (2) Miss Elsa D. Franklin; (3) Mr. C. M. Longdin; (4) Mrs. R. B. Bennett; (5) Miss Whitfield; (6) Mr. E. W.



Mann; (7) Mrs. C. A. Noble (London). A vote of thanks to Dr. Crossley-Holland was carried by acclamation on the motion of Mr. C. A. Noble. It should be added that the four-page programme (measuring 11 in. by 7½ in.) was a work of art and a masterpiece of witty suggestions—e.g., "Applaud bottles, but not with them"; "Do not accompany the artists with mouth-organs."

* * *

The pleasure of the excursion to Bridlington on June 17 was diminished by an unfortunate mishap, which might have been much more serious. In cleverly averting a collision with a small car, the chauffeur of one of the half-dozen charabancs turned at a right angle into a field. Among the twenty-eight passengers in this (the third) charabanc were the President, Mrs. Gamble, Mr. R. Feaver Clarke, Miss Clarke, Mr. and Mrs. H. Roberts, and Mr. F. P. Sargeant. Mr. R. Feaver Clarke, whose wrist and knee were bruised rather badly, received first-aid from Mr. J. L. Hirst (Liverpool); and there were other cases of shock, chiefly among those near the back of the vehicle. On arrival at Bridlington, the visitors were welcomed by the Mayor in a short speech. The Mayor of Scarborough was among the party. The Priory Church and other places of interest were visited, and a sumptuous high tea was provided at the Spa. On the motion of the President, seconded by Mr. J. H. Robinson (Liverpool), a hearty vote of thanks was accorded to the Bridlington chemists and other friends for their hospitality.

The morning of the final day of the Conference was devoted to the efforts of enthusiasts in golf and bowls. The results were as follows: *Golf.*—(1) Mr. T. Bayne (Edinburgh); (2) Mr. Furnival (Sheffield); (3) Mrs. Whitfield (Scarborough); (4) Mr. F. W. Gamble (London). (An amusing argument ensued as to whether residents of Scarborough were really eligible for prizes, and it was suggested that Mr. Gamble should be promoted on the field. At the time of going to press the argument is still unfinished.) *Bowls.*—(1) Mr. E. J. Toogood (London); (2) Mr. Bain (Glasgow); (3) Mr. Brown (Glasgow). Mr. J. Gilbert Jackson (Sheffield) was awarded a consolation prize; and the ceremony of presentation was performed by Mr. George Whitfield, Knight of Galen.

* * *

We learn that the words "From the Pharmaceutical Department of Manchester University" should have been appended to the paper by Mr. Edward C. Davies, B.Sc., published in abstract on p. 78 of our last week's issue. This, like Dr. Samaan's paper on digitalis, which followed it, is an outcome of the brilliant work being done at Manchester under the general direction of Mr. James Grier, M.Sc. In this connection, we take the opportunity of correcting a sentence in an editorial article in the same number (p. 54): this should have read, "It must be borne in mind that Manchester University School of Pharmacy has existed for some years, and that the University grants a degree in pharmacy." By a slip of the pen, the name of another University was given.

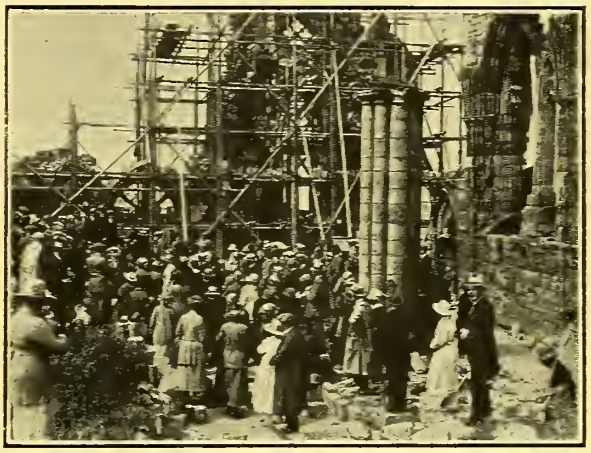
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The photographs which are given on pp. 105 and 105 were taken for the *C. & D.* by Mr. John Cleworth, 56 Ducie Street, Manchester, who will supply unmounted photographs (half-plate size) at 1s. 6d., post free. The list is given below, and the photographs should be ordered by number. The numbers and titles of those reproduced in this issue are printed in italics:

1. Party of early arrivals on June 15: a charabanc outing to Filey.
2. Visitors being entertained at Mr. Whitfield's bungalow on the Spa.
3. The opening proceedings of the Conference.
4. Afternoon tea on the Spa.
5. *The Swimming Competition at the Bathing Pool: the winner nearing the finish.*
6. *Early arrivals at the Bathing Pool.*
7. *Group of Masonic chemists.*
8. *Bowlers at South Cliff.*
9. *Large party from Liverpool and district on the Spa.*
10. *Conference visitors being shown over the Castle ruins.*
11. *Sir Richard Robinson's farewell to Whitby excursionists.*
12. *Charabancs leaving Whitby.*
13. *The members at Whitby Abbey, listening to the guide.*
14. Mr. E. S. Peck and two Nottingham delegates.
15. *Mr. J. H. Robinson and Mr. Humphreys Jones at Hackness.*
16. *Group on the Spa—Sir Wm. Glyn-Jones and Messrs. Gamble, Parkes, and White.*
17. Early arrivals on the quayside.
18. *Mr. Hines and family at tea on the Spa.*
19. Conference party arriving at Whitby Abbey.
20. *Sir Richard Robinson with Mr. and Mrs. E. Saville Peck.*
21. *Mr. Rutherford Hill at Hackness.*
22. Two Nottingham delegates at tea.
23. *Mr. and Mrs. R. B. Bennett and Mrs. Whitfield at Hackness.*
24. *Mr. E. Saville Peck and Mr. F. Ransom on the Spa.*
25. Mr. Layman chatting to Mr. and Miss Franklin.
26. *Mr. Cross at Hackness collecting the lingerers.*
27. Mr. and Miss Feaver Clarke and Mr. Hines outside York Minster.
28. *Visitors from Manchester.*



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Births.

Greaves.—At 36 Bore Street, Lichfield, on June 17, the wife of W. L. Greaves, chemist and druggist, Fore Street, Sidmouth, of a daughter.

Surfleet.—At 129 High Street, Guildford, on June 16, the wife (*née* Eversfield) of A. F. Surfleet, Ph.C., of a son.

Marriages.

Abernethy—Urquhart.—At the Imperial Hotel, Aberdeen, on June 9, William Abernethy, chemist and druggist, Alness, to Janet Munro Urquhart, daughter of Mr. D. Urquhart, Kilniver House, Alness.

Garsteng—Wrigley.—At St. Peter's Church, Salesbury, Blackburn, recently, by the Vicar, the Rev. T. W. Walker, Frank Garsteng, Clayton-le-Moors, to Kitty Wrigley, chemist and druggist, Wilpshire, late pharmacist to Blackburn Royal Infirmary.

Stewart—Kay.—At the Douglas Hotel, Aberdeen, on June 15, by the Rev. James Meikle, B.D., James Stewart, M.P.S., chemist and druggist, Buckie, to Annie Kennedy, eldest daughter of Mr. Alexander Thain Kay, M.R.C.V.S., and Mrs. Kay, Alyth.

Deaths.

Breezé.—In Dublin, on June 19, Second-Lieutenant Alfred Donald Hugh Breeze, 2nd Battalion Worcestershire Regiment, youngest son of Mr. Alfred Breeze (Breeze's, Ltd., wholesale druggists, 41 Union Street, Plymouth), 1 College View, Ford Park, and grandson of Mr. George Breeze, J.P., aged twenty.

Brown.—At Willowbrae House, Edinburgh, on June 21, Mr. David Brown, F.R.S.E., F.I.C., F.C.S., J.P., late senior partner of J. F. Macfarlan & Co., manufacturing chemists, Abbeyhill and Northfield, Edinburgh, and Moor Lane, London, E.C. 2, aged eighty. Mr. Brown was the son of the late Mr. David Rainy Brown, whom he succeeded in the firm of J. F. Macfarlan & Co. After leaving the Royal High School he received a lengthy scientific training under Professor George Wilson and Dr. Lyon Playfair at Edinburgh University, and under Professor Anderson at Glasgow University. From 1861 to 1864 he was engaged in the laboratory of the Society of Apothecaries of London as assistant to the late Mr. Robert Warington, F.R.S., joint editor of the British Pharmacopœia of 1867. Mr. Brown was elected a Fellow of the Chemical Society in 1870, and of the Institute of Chemistry in 1887. He communicated a paper to the British Pharmaceutical Conference of 1876 on opium, and his special knowledge of the acids of opium and of its colour-reactions was utilised in the well-known Chantrell trial. Other research undertaken by him, singly or in collaboration, included an investigation of the keeping properties of chloroform, and notes on the location of salicin in willow bark. Mr. and Mrs. Brown entertained the members of the British Pharmaceutical Conference in the extensive grounds of Willowbrae House in 1912 (*C. & D.*, II., 1912, p. 153). Only a few months ago Mr. Brown lost his son, Mr. D. R. Brown, who for some years past had relieved him of most of the detailed work of his partnership. He is survived by a widow and two daughters.



Mr. David Brown, J.P.

Garrie.—At Chester, on June 15, Laura Benyon, wife of Mr. William Garrie, 140 Sydenham Road, London, S.E. 26 (representing D. & W. Gibbs, Ltd.).

Personalities.

Mr. Henry W. Quelch, of Henry C. Quelch & Co., 4 and 5 Ludgate Square, Ludgate Hill, London, E.C. 4, is leaving on July 1 for a short visit to the United States and Canada.

Mr. L. Hiegentlich, managing director of Rose & Co., 122 Rokin, Amsterdam (offices) and Haarlem (factories), Holland, manufacturers of synthetic perfumery, fruit extracts, and essential oils, is at present on a business trip to Britain.

Mr. E. Barker Addison, son of Mr. C. S. Addison, chemist and druggist, Southgate, London, N. 14, has obtained the B.A. degree at Cambridge University, being first in the first class Part I. and second with distinction in Part II. in modern languages. He is proceeding to a commission in the technical branch of the Royal Air Force.

In the report of the closing proceedings of the British Pharmaceutical Conference in our last issue (p. 81), reference was made to the sudden illness of Mr. E. S. Waring, a director of Boots Cash Chemists (Eastern), Ltd. We regret to learn that serious symptoms associated with gall-stones developed soon after Mr. Waring's arrival at Scarborough for the Conference, and that he was subsequently removed to the Belvedere Nursing Home, where an operation was performed.

The name of Ronald Lambert Parry appears in the list of successful candidates in Part II. of the Law Tripos at Cambridge this week. Mr. R. L. Parry, who is the elder son of Mr. Ernest J. Parry, B.Sc., F.I.C., went up to Cambridge, after being demobilised from the Army, with a scholarship from Rossall and an open exhibition to Corpus Christi College. He has previously taken Part I. of the Mathematical Tripos, and now takes two honours degrees, the B.A. and the LL.B. In addition to his academic honours, Mr. R. L. Parry, B.A., LL.B., was captain of his college Rugby and hockey teams, a member of the tennis six, and has played hockey for the University three times. He is due to be called to the Bar in January next.

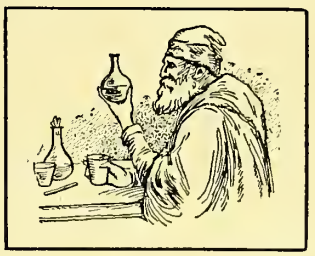
Never, surely, were there so many outings associated with a British Pharmaceutical Conference. We referred in our last issue (p. 82) to a pre-Conference excursion: it remains to record a post-Conference excursion. Arranged by Mr. "Jack" Chapman, who has done a great deal of hard work out of the range of the limelight, it took place on June 19, the party numbering twenty-four. The route was by way of Pickering to Helmsley, where lunch was served and the Castle was visited. Rievaulx Abbey was next inspected in passing, and on the return journey a halt was made at Kirby Moorside, where the party was entertained with true Yorkshire hospitality by Mr. John Burnett, Ph.C., and Mrs. Burnett. Although prevented from attending the Conference, Mr. and Mrs. Burnett have been following its proceedings with keen interest, and their welcome will long be remembered by their guests. The party also visited Kirkdale and Lastingham, both of which places possess churches dating back to Saxon times, and arrived back at Scarborough entirely satisfied—though not satiated—with this extension of the official programme.



Mr. J. W. Chapman.



Notes on Trade Novelties.



VACUUM-FLASK CARRIERS.

So many people nowadays take their vacuum flasks with them when on holiday, especially when there is need for either a cool beverage or hot ready-made tea. It is therefore an appropriate time to introduce the vacuum-flask carriers which are offered by Eeles, Walker & Co., Ltd., The Crescent, Cambridge Street, Birmingham, and advertised in this number. The prices of the two sizes are given.

NEW POSTAL RATES.

Several wholesale houses have asked us to remind chemists that ½*d.* "printed matter" post has been abolished, and that 1*d.* postage is now required in cases where the ½*d.* was sufficient before June 13. We are informed that many chemists, through forgetfulness, are insufficiently stamping orders, which, besides being an expense to the receiver, leads to delay, as such communications are reserved for delivery later in the day.

PEEKABO BABY SOAP.

An attractive novelty brought out by Charles Midgley, Ltd., Manchester, is the Peekabo baby soap. The idea of the "Peekabo Kid" is carried through the advertising matter, the kind of "kid" he is is shown in the company's advertisement in this issue. There is a bright colour scheme carried through the showcard, pamphlets, wrappers, and box decorations, which gives a distinction to the soap. The soap is superfatted, attractively perfumed, and packed three tablets in a box. As a standard line in baby soap chemists can recommend it as specially devised for use on infants' skin.

"WELLCOME" BRAND TOXINS.

Two new products employed in the diagnosis or prophylactic treatment of diphtheria reach us from Burroughs Wellcome & Co., Snow Hill Buildings, London, E.C. 1. One of these is diphtheria toxin for the Schick test, a method of determining whether individuals are susceptible or immune to diphtheria. The diluted toxin is injected intracutaneously into one arm, while into the other arm a control injection is made of toxin that has been heated. A "negative" result is obtained if no reaction shows after twenty-four hours, the patient being passed as immune to diphtheria. On the other hand, a "positive" result is obtained if a small deep red patch is shown which lasts for some days and gradually fades into a brown discoloration. In such a case the other product, the diphtheria prophylactic toxin-antitoxin mixture, is indicated, and if used according to instructions gives complete protection against diphtheria for a long time. It is obvious that these two products are of such a value that it may be possible to abolish diphtheria altogether if they are employed systematically.

CROMESSOL.

A well-known Scottish pharmaceutical chemist was asked one day to produce a pleasant-smelling disinfectant which should embody the deodorising and bactericide properties of formaldehyde and essential oils. The result was that he made a special study of the subject and produced a series of perfume disinfectants which embody new principles and offer several advantages when used as disinfectants. The Cromessol Co., Krome Laboratories, 323 Paisley Road West, Glasgow, was formed to introduce the series of Cromessols. The inventor called upon us this week, and before long had saturated the editorial room with odours such as one catches when passing Rimmel's or Atkinson's, with the advantage that the atmosphere was sterilised at the same time. Cromessols are already largely used as sprays in cinematograph theatres and supplied for the purpose in concentrated form. The diluted liquid is used with an improved and specially devised sprayer. Cromessols are now being put up in bottles selling at 2*s.* 6*d.* and 4*s.* 6*d.* for sale by chemists. The popular one of the series is a combination of lily of the valley and formaldehyde, and as the disinfectant standard is high it can be recommended as a household antiseptic spray for sickrooms or for purifying all the rooms of a house.

CRUSH LEMON.

We referred recently to the newly introduced Crush Lemon, a granular powder for the extemporaneous manufacture of lemonade, brought out by Potter & Clarke, Ltd., 60, 62 and 64 Artillery Lane, London, E. 1. We have since had an opportunity of examining the product,



which is sent out in one size only, eight-ounce tins, selling retail at 1*s.* 3*d.* The tins are labelled in colours, the style being shown in the company's advertisement. We illustrate here the showcard, 15 in. × 9½ in., which is being sent out to advertise Crush Lemon. The card is brightly printed in natural colours.

ZENOBIA LTD. deny the rumour that the company's business is to be sold or amalgamated with another firm.

Mitchola is the name of a new series of toilet articles offered by Lorimer-Marshall, Ltd., 12 Tower Hill, London, E.C. 3.

Stocktaking.—Francis Newbery & Sons, Ltd., Charterhouse Square, London, E.C., will close for stocktaking from June 28 to July 1.

Silver Vanishing Cream is offered in bulk by Hall Forster & Co., Ltd., manufacturing chemists, Peel Buildings, Temple Street, Newcastle-on-Tyne.

Corodenta, a powder for cleaning dentures, is a new preparation made by the Crown Perfumery Co., Ltd., Sidney Road, Homerton, London, E. 9.

Antiphlogistine prices, which take effect on July 1, are given in the advertisement in this issue of Mr. J. F. Murphy, 41 St. Ann's Road, London, E. 3.

Japanese alkaloids produced by the Hoshi Pharmaceutical Co., Ltd., Japan, are offered by Ralph L. Fuller & Co., Inc., 21 Harp Lane, London, E.C. 3.

Dunckley's Rat-kill, which does not contain scheduled poisons, is advertised by Dunckley & Co., manufacturing chemists, Lansdowne Road, London, E. 8.

Summareen Vanishing Cream affords the users complete immunity from insect-bites. It is made by the Carmichael Soap and Perfumery Co., Ltd., Macfarlane Road, Shepherd's Bush, London, W. 12.

James Townsend & Sons, Exeter, are already offering the Registers needed by the Dangerous Drugs Act Regulations. Samples which have reached us show that the Registers can be compressed into two books.

"Tuskoid" Combs.—Through an inadvertence the page given in the Index to Advertisers in our issue of June 18 as that on which the announcement of H. J. Lee & Co., Lancaster, appeared, was 29. This should have been page 16.

Rose & Co., 122 Rokin, Amsterdam (offices), and Haarlem (factories), inform us that, owing to their having bought considerable quantities of the new fruit crops at favourable prices, they are enabled to reduce their prices for fruit extracts (raspberry, strawberry, peach, cherry, etc.) by 10*s.* per lb.

Roure-Bertrand Fils Bulletin.—No. 3 of Series 4 of this well-known publication has been issued recently. Research work since the previous issue includes papers on the essential oil of violet roots, oil of boldo leaves, and patchouli oil from Sumatra. The commercial review contains notes on the current industrial problems, and shows how values of essential oils and allied products have declined. A bibliography is appended, and the work is illustrated with photographs from the Far East.

Business Changes.

Mr. A. C. H. York, chemist and druggist, has opened a business at 579 Parkfield Road, Wolverhampton.

W. Charity & Sons, chemical and drug merchants, have removed to 37 Union Street, Borough, London, S.E. 1.

Mr. G. Loxton Grinstead, chemist and druggist, has purchased the business of Mr. H. J. Howlett, chemist and druggist, High Street, Ewell, Surrey.

Two changes have recently taken place in the representative staff of Thos. Christy & Co., 4-12 Old Swan Lane, London, E.C. 4. Mr. P. C. Luty is now representing the firm's interests in Ireland, and Mr. W. A. Redford has taken over the Welsh and Midlands section, formerly covered by Mr. Dutton.

In recognition of his having completed fifty years' service with the company, Mr. J. Welch, an employee of F. Newbery & Sons, Ltd., druggists' sundriesmen, Charterhouse Square, London, E.C. 1, was on June 17 presented with a silver watch. The presentation was made by Mr. F. R. L. Newbery, the managing director, who mentioned that the combined service of eight employees amounted to 397 years. Mr. E. Pickering, secretary and a director, added a few words of congratulation.

New Companies and Company News.

P.C. means Private Company and R.O. Registered Office.

Scientific Remedies, Ltd.—Capital, 100*l.* Objects: To acquire from E. R. Babcock the prescription of a patent medicine called "Fortis," etc. The first directors are: S. Fawns, 71 Onslow Square, S.W. 9, engineer; E. R. Babcock, 64 Conway Road, Southgate, N. 14, merchant. R.O.: 68 Aldersgate Street, London, E.C.

Heath & Heather, Ltd. (P.C.).—Capital, 10,000*l.* Objects: To carry on the business of herb culturists, agriculturists, market gardeners, farmers, importers, exporters, and herbalists, etc. The first directors are: James Ryder, "Huntingdon," Upper Worley Road, St. Albans, and Samuel Ryder, J.P., Marlborough House, St. Albans. R.O.: 2 Upper Dagnall Street, St. Albans.

Climax Manufacturing Co., Ltd. (P.C.).—Capital, 1,200*l.* Objects: To carry on the business of chemists, druggists, drysalters, oil and colour men, manufacturers of, and dealers in, pharmaceutical, medicinal, chemical, industrial, and other preparations, cements, oils, paints, and varnishes, electrical, chemical, photographic, surgical, and scientific apparatus and materials, etc. The permanent directors are: A. Curtis, Groseley, Feltham Hill, Middlesex: D. Cable. 5 Avondale Road, Mottingham; and S. J. Coxell, Melton Lodge, First Avenue, Westcliff-on-Sea. R.O.: 283 Victoria Dock Road, West Ham.

A. Boake, Roberts & Co., Ltd.—The accounts for the year to March 31, 1921, show that, after payment of dividends on Preference shares and interim dividend of 4½ per cent., free of tax, on ordinary shares, providing 9,091*l.* for bonus to employees and commissions, 6,000*l.* for taxes and transferring 200*l.* to staff provident fund, there is a credit balance of 124*l.* to be carried forward.

The "Sanitas" Co., Ltd.—The general meeting was held at the Cannon Street Hotel, London, E.C. 4, on June 15, under the presidency of the chairman, Mr. C. T. Kingzett, F.I.C., F.C.S. The chairman said it was a matter for congratulation that, notwithstanding the general slump in trade experienced during the year under review, particularly in the export department, and the necessity of writing down stocks acquired at war- and boom-time high values to current prices, the trade done in the past year had, on the whole, been satisfactory, sufficing for the payment of the full dividend of 9 per cent. on the preference shares and 5 per cent. on the ordinary shares. In view of the great increase in business experienced in the previous year, the company had acquired and equipped a model additional factory at Hayes, and were prepared to make use of it as soon as the revival of trade justified the action.

Information Department.

INFORMATION WANTED.

Postal or telephone information with respect to makers or first-hand suppliers of the undermentioned articles will be appreciated:

D/226. Hatfield's malted food.
L/216. Well's Theocamph.
O/166. Machinery for making quill toothpicks.
A/176. Liquor Papain et Iridin Co. (Seymour, Hamilton & Co.'s).
S/186. Rowle's Mentho-sulphur.

INFORMATION SUPPLIED.

Inquiries regarding the following articles have been answered. The information as to supply will be given to others who send a stamped, addressed envelope to the Information Department, The Chemist and Druggist, 42 Cannon Street, London, E.C. 4.

Bernard Dumas & Co.'s filter-papers, P/216
Boat-shaped feeding-bottles, T/216
Carter's Liver Pills, T/226
Cole's Ossidine, D/206
Cfotalin, E/186
Cuticura soap, T/226
Dip-a-Dip bottle capping, F/176
"Fynnon" Salts, B/126
Iodocaine, C/226
Naturalists' supplies and work, T/206
Seccotine, T/226
Silvol, B/16
Solid Lysol, B/206
Surgical catgut, R/176
Dr. Williams' pink pills, S/136
Willocine tooth-paste, S/136
Wright's aoxygen bath salts, S/285
Wynter's foot salve, N/96

Observations and Reflections.

By Xrayser II.

"Dreams, Books,"

says Wordsworth, "are both a world, and books, we know, are a substantial world." He does not, however, say that of dreams, and if Mr. E. Saville Peck's address to the Conference were a mere dream it would scarcely be worthy of serious consideration by those whose occupation inevitably compels them to regard it from a strictly practical point of view. But although Mr. Peck admits that his dream lies as yet beyond the sphere of practical politics, he evidently had a serious purpose in making it known. He is of the number of those who are not content with "keeping open shop"—that is to say, with the business of pharmacy as it is contemplated in our Charter and the Pharmacy Acts—but aspires to something beyond and above it. Not only does he make a distinction between commercial and professional pharmacy, but logically he commits himself to the opinion that they cannot, or at least ought not, to be combined. He would have two classes in pharmacy, classes distinguished not merely by a difference in their education, but as being respectively business men and professional men; and he looks, apparently with envy, at the German distinction between the apotheker and the mere druggist, though the differentiation he expressly desires does not cut quite so deep as that. It is, however, at this point that

One begins to Question

not only the feasibility but the desirability of the realisation of Mr. Peck's dream. It is more than possible that ultimately it would lead to such a schism as I have just referred to, and one can hardly absolve Mr. Peck of the wish that it should. Apart from that, it looks very much as if the dream were meant as an incentive to an increased stringency in our examinations. As regards the Major this would be all very well. If our Society can open such a way to a higher status to those who desire it there is no reason why it should not, and in some respects it might by doing so benefit us all. The prospect of such an advance would probably increase the number of candidates for the Major, and thus indirectly raise the general educational level, which, however, is already admittedly high enough for our present work. The Preliminary and Qualifying examinations seem, nevertheless, to be involved in Mr. Peck's dream, to the realisation of which it is clear he regards their revision as necessary. It may be so, but we shall hardly agree to raise the standard of either for a dream's sake. We cannot be too highly educated, but if we do not value education for its own sake we must have more solid ground than this for pursuing it.

Mr. Hines

contributed to the Conference a thought-provoking paper in which the subject of the higher education of pharmacists occupied an important place. Mr. Hines would abolish the Major examination altogether, and substitute for it an honours examination in a subject chosen (I suppose) by the candidate with the approval of the examining body. Whether Mr. Hines by the test-paper of which he speaks means a set of questions for the candidate to answer or a thesis on the subject presented by him, as is done for the M.A. degree in many Universities, I do not understand; but either procedure would have this advantage among others—that it lends itself to that specialisation without which it is now impossible to attain eminence in any pursuit. It also leaves every man free to follow his own inclination, which is the surest way to excellence, and relieves him of the nervous strain which disqualifies so many good men for passing an ordinary examination. Mr. Hines may be too sanguine in supposing it would be regarded as "a natural sequel of events in the educational development of the pharmacist" that he should thus proceed from qualification to honours, but it would be a much more common procedure than the passing of the Major now is.

The Position of British Pharmacy

at the beginning of the present century was, said my predecessor, "Xrayser," writing on January 5, 1901, to be worse than it had been in 1801. From that date onward to 1868 pharmacists had "gone on confident and progressing," but from the passing of the Act of that year they had so greatly declined as to have become partially paralysed. "For years they had scarcely utilised the Act that had been passed for them"; half its value had been lost; the craft was falling into the hands of limited companies and the time rapidly approaching when pharmacy would be a mere branch of the draper's and grocer's business. It was a gloomy picture, and apparently the writer saw little or no hope for the future. A scheme was already afoot for supplying the defects of the Pharmacy Act, but so little interest was taken in it by the majority of pharmacists that its success was doubtful, and "Xrayser" concluded his survey by expressing the hope that

"Xrayser IV." in 2001

would unearth his prophecy that nothing would be won by such half-hearted battle-cries. We have not yet reached 2001, but already, when the century has barely attained its majority, we have seen his prophecy fulfilled. Not only did the Act of 1908 fail to redress the injustice perpetrated under that of 1868, but it saddled us with a by-law directly contrary to the intention of the latter, thus still further endangering our position. As for the company pharmacy which "Xrayser" regarded as the chief evil threatening us, we are, thanks to the expansion of our English firms and the invasion from America, in a much worse position now than in 1901. Should the drift of things continue in the same direction at the same rate, the single-shop pharmacist will, I fancy, have ceased to exist long before 2001, and whether it is the fact or not that company pharmacy means the decay of pharmacy itself, this is not an agreeable prospect for those of us who have not bowed the knee to Baal.

But Nothing is Won

by pessimism. The courage and determination our prophet demanded from us, and for lack of which we have since lost ground so lamentably, can never spring out of that soil. We shall recall his prophecy in vain if we let its fulfilment lead us to despair. In spite of past failures, we have now a new ground for hope in the result of the test case. The failures of the past have been mainly due to the lack of political sense, the inability to see beyond their own shops, exhibited by most pharmacists. The conduct of affairs by the Society was largely to blame for this. The Retail Pharmacists' Union will, it may be hoped, bring political questions more home to our "business and bosoms"; and if every individual pharmacist can be induced to give to them his due share of the energy and ability he devotes to his personal affairs we shall cease to lose ground and possibly may recover some that we have lost. Every one of us is intimately concerned in the matters with which the Union will deal, and we can hardly show our loyalty to the Society better than by taking our part in its work. Only so can we justify the transference of so many of the Society's functions to the new body.

OXALIC ACID is a very effective germicide, but its general use is not to be encouraged because of its decidedly toxic nature. It seems likely, however, that its germicidal power may find some special uses in the hands of persons properly informed of its virtues and shortcomings. If sold for general disinfecting purposes, it is desirable that its appearance be strikingly altered so as to call attention to its poisonous nature. Probably the best way to do this is to colour the crystals with a dye. This can be readily done by spraying or sprinkling the crystals with an aqueous solution of a dye, mixing well and then allowing the dyed crystals to dry in the air. A blue colour is very appropriate and "Soluble Blue B" is a very satisfactory blue colour for this purpose.—"Journal of the American Pharmaceutical Association."

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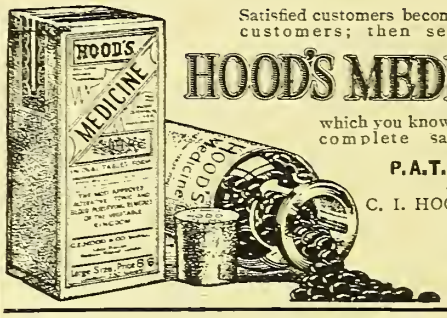
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Editorial Articles.

A Modern Enchiridion.

When a historian, a hundred years hence, desires to obtain a correct perspective of pharmacy in 1921, his task will be very easy if he is so fortunate at the commencement of his quest as to light upon this number of The Chemist and Druggist. The reason for our statement is the belief that this issue contains such a selection of articles and news regarding the drug-trade that it may be taken as representative of the era. "What is this about alchemy," we can fancy our historian remarking, "and why did the Editor of that day choose this as the subject of the principal article in the issue?" The cover and the headings of the chief articles all bear sketches of alchemists, and no such collection of Teniers' pictures on the subject has been reproduced before in any publication. In addition to the general interest in the matter, the article emphasises the fact that chemists and druggists claim a prior use of the title "chemist," which good name interested persons would like to steal from us. The alchemists, chemists in the Middle Ages, had three objectives in their researches. Two of these were the discovery of the panacea or universal remedy for diseases, and the alkahest or universal solvent, and from these patient studies modern pharmaceutical chemistry has sprung. The third quest was for methods of transmuting baser metals into gold, which laid the foundation of metallurgical chemistry. The article ends with a suggestion that the illustrations might be utilised in modern businesses. As an instance of present-day science of the highest type may be mentioned Dr. Judd Lewis's condensation of the Cantor lectures he delivered recently before the Royal Society of Arts. The pharmaceutical and medical aspect of spectroscopy has been especially emphasised.

About Alchemy.

The numerous references to the Dangerous Drugs Act will strike the future historian, and we hope he will be living in an age sufficiently enlightened to entrust the drawing up of regulations on technical matters to people with the requisite knowledge of the subject. He may well pity us who live under the curse of bureaucrats at once obstinate and lacking in knowledge. There are various opinions as to whether the Regulations are *intra vires* or *ultra vires*, and we hope that the question will soon be decided. Suffice to say it is an unsatisfactory state of affairs which allows a couple of ill-equipped officials in Whitehall practically to repeal the Pharmacy Acts in Regulations not contemplated by the Convention upon which the Dangerous Drugs Act was founded. Pharmacists must, however, carry out the Regulations which

Dangerous Drugs Act.

come in force on September 1, and in this issue will be found a condensation of the Regulations which embodies all the points which the drug-trade requires to know. The commentary which accompanies the summary is the first publication of its kind, and deals with the practical problems which arise. Reviews of new books tell our readers what are the main features of many recently published works. Mr. Mortimer's notes on Wesley's "Primitive Physic" arise out of references by "X-Rayser II." to this famous book of domestic remedies. Modern medicine is, on the other hand, displayed in the article on the treatment of colds which a well-known M.D. has written for us. The news section contains reports of several unique events. Who, for instance, has ever heard before of pharmacists being imprisoned for endeavouring to maintain standard prices? Yet last month nine chemists in Spain were put into the common jail on this charge. Belgium supplies us with a happier item in the honouring by King Albert of a distinguished pharmacist, and an opportunity of giving particulars of a unique souvenir of the occasion. The series of exclusive photographs of the British Pharmaceutical Conference which Mr. Cleworth has taken for us will continue the pleasant memories of Scarborough which those who were present last week will have brought away with them. It has also been an exceptional week in that the annual dinner of the Pharmaceutical Society and the Chemists' Exhibition have both been held since we last went to press. The reports of these occupy considerable space, but convey to those who did not take part in them the main features of these functions. The issue also reflects the pre-eminence of the *C. & D.* in information of the bread-and-butter type. There are accounts of many visits to new works, also descriptions of numerous trade novelties, the particulars of which are made public for the first time. The commercial articles are exceptional, the statistics of German trade, for example, being of arresting importance to exporters and wholesalers. Indian trade receives also special attention, as it should in the chief drug-trade journal circulating in our Eastern Empire. The historian will not, however, find any note of pessimism in the number, as he well might expect if he had first studied the economic outlook. All our advertisers are preparing for the wave of renewed prosperity which will sweep over the country when the present labour disputes are settled. We, on our part, may claim some credit in bringing before the drug-trade an exceptional collection of advertisements wherein are offered every class of goods required by our subscribers.

NEWS ITEMS.

TRADE MATTERS.

International Credits.

It is common knowledge that the present general stagnation of business everywhere has to a great extent been brought about by the financial distress in a large portion of Europe. In one half of the world goods have accumulated and cannot be sold, while the whole financial system is in danger of breaking down because it is unable to stand the strain of financing these ever-increasing stocks; the other half of the world is suffering from want of all necessary commodities, because it lacks the necessary purchasing power. Consequently business is at a standstill and unemployment rife in both the rich and the poor countries of the world. The object of the "ter Meulen" scheme, which has been widely discussed, is to overcome the present world-wide lack of financial security; to enable the importer to buy goods for which he is unable to pay cash, and to give to the exporter that security and guarantee to which he is entitled, and which is absolutely essential in international commerce. The idea is an attempt to overcome one of the main obstacles to a renewal of business activity—namely, the difficulty of importers in various countries in securing short- and long-term credits. The mainspring is the provision of a special form of security to "back" the credit of importers. This is carried out in the following manner: Government bonds are loaned by each Government to its own nationals; such bonds are only to be issued up to the gold value of the underlying security which is agreed to by an international commission of experts under the authority of the League of Nations. When put into actual practice the scheme, it is anticipated, will work with a minimum of official interference; it will, in fact, make no alteration in the contracting parties' usual methods. The exporter must still satisfy himself as to the integrity of his customer and fix up all the usual terms of sale. The scheme simply provides the importer with facilities for obtaining credits in the form of bonds, which he may pledge as collateral security. The purchase money is made payable in whatever currency the exporter requires, and the bonds to be used as collateral will be issued by the borrower's Government in the same currency. Rate of interest, the length of time of the credit, etc., are matters for mutual agreement between buyer and seller. The rate of interest and date of maturity of the bond need not necessarily coincide. The buyer then approaches his Government and borrows from it the bonds which he needs as collateral, each Government arranging its own terms of the bonds with its own nationals. The approval of the International Commission of the League of Nations is then obtained and the transaction carried out. It should be noted that these facilities for credit will only be given for "necessary" commodities. The importation of luxuries into distressed countries will not be encouraged. As the buyer repays all sums due from him for principal and interest at maturity, the exporter will then return the pledged bonds to his buyer for transmission to his Government for cancellation. If the credit is extended by agreement between the parties the approval of the buyer's Government of such extension must be obtained. Should the buyer fail to meet his obligations the exporter is entitled to seize the collateral security and use it in satisfaction of his claim. He may either hold it as an investment or sell it, and pay himself out of the proceeds of the sale. In the former case he is entitled to cash the coupons of the bond as they become due, and to repayment of the principal when the bonds mature. If he desires to sell the bond he must first give the issuing Government the option of buying it in, and in the event of their declining to do so he is free to sell the bond as he wishes. Should the sale of the bond fail to realise enough to repay in full his claim, he will still have a claim for the balance against his buyer. The assets that it is proposed to pledge by the various Governments will probably take the form of revenue from import and export duties, State railways, Government monopolies, forests, etc. The situation in this respect will be different in each country, but all such assets will have to be approved by the International Commission, who will determine the gold value of the credits which it would approve against the security of these assets. The participating Governments will then be authorised to issue bonds to the gold value approved by

the Commission. The assets pledged will be enumerated against each bond. The service of these bonds, which will be obligations of the issuing Government, will be specifically secured out of the revenue of the assigned assets. The outstanding advantage of this scheme seems to be its flexibility; it provides a "reservoir" of credit which can be drawn on as required. When one transaction is completed the collateral security is released and becomes available at once for new business. It is equally suitable for long or short-term credits, and in the latter case there would be a "chain" of credits for which collateral would be always available. The scheme should be generally acceptable, as it in no way interferes with the ordinary methods of commerce. It simply provides additional security for ordinary transactions. The success of the idea to a great extent depends on whether the various Governments of Europe can be induced to take the matter up and participate in the "borrowing" and issuing of bonds which can, of course, be used by their nationals for the purpose of obtaining credit, and in turn accept such bonds from other Governments as security for their exports. Traders who are in favour of this scheme should take every opportunity to impress upon their foreign buyers the great necessity and the mutual advantage this scheme holds out to both exporter and importer, and request them to urge their Government to adopt the system. Given the necessary support, there is no doubt that the "ter Meulen" scheme of international credits would prove satisfactory as a means of reviving and carrying on international commerce, which at the moment is almost at a standstill owing to the complete breakdown of the old machinery and channels by which business was transacted. An extremely interesting booklet on this very important matter has recently been issued by the League of Nations, in which the scheme is clearly outlined by Sir Drummond Drummond Fraser, K.B.E., and may be obtained, price 6*d*., from the publishers, Harrison & Sons, Ltd., 44-47 St. Martin's Lane, W.C. 2.

Relief for the Income-tax Payer.

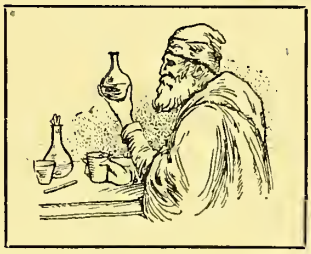
The season of the income-tax return is now upon us, and the taxpayer is forced to contemplate the prospect of being faced with the advent of the demand-note for the tax itself later on. In the circumstances it is natural that he should turn with some eagerness to such indications of an alleviation of the burden as can be found in the actions or language of those who administer and control the fiscal destinies of the country. One of these indications can be read in the speech made in the House of Commons by the Leader of the House and late Chancellor of the Exchequer, Mr. Chamberlain, on the 1st of the present month. The question was how far, if at all, an allowance in connection with the expenses incurred by them in the discharge of their Parliamentary duties could be made to members out of the 400*l*. a year salary now paid to them, and the official statement on the point is of such a general character as to be capable of application to income-tax payers generally. It is therefore important that those who are now making their income-tax returns should frame their claims for deductible expenses in the light of Mr. Chamberlain's statement. After pointing out that, as the law now stands, a deduction from income is allowable in respect of expenses wholly, necessarily, and exclusively incurred in performing the duties of an office, he went on to apply it to the case of salaries paid to members in these words: "An allowance would normally be admissible, for example, in respect of the additional cost of living away from home when engaged in his Parliamentary duties either at Westminster or in his constituency, cost of travelling between constituency and Westminster (if not provided by the State), miscellaneous expenses necessarily incurred, including stationery, postage, telegrams, and similar items, secretarial assistance, occasionally the rent of an office." Now, it is impossible to ignore the fact that this interpretation of the law represents a concession to the taxpayer. Some time ago the High Court held that where a solicitor resided and carried on business in one town and had to travel to another town in connection with the discharge of his duties as clerk to the justices there, he was not entitled to deduct his travelling expenses between the two places in making his return for income-tax. Mr. Chamberlain's statement is clearly not consistent with this, and, as he disclaimed any intention of asking for members a relaxation which was not also open to the ordinary taxpayer, the possibility for relief which it involves should not be overlooked. Indeed, events which have followed closely on the statement lead to the conclusion that it is intended to ignore the strict law on the point so far as the salaries of members are concerned. But there is surely no justification for limiting the concession in this way. Thus, a chemist having two or more places of business would be entitled to deduct from his profits his travelling expenses incurred in going from one place of business to another—even though he happened to reside at one of them. Then, again, the "cost of living away from home" could very reasonably be interpreted to cover the expenses of meals taken away from home while engaged in the business in respect of which the taxpayer is assessed. Simultaneously with this administrative concession comes a decision of the House of Lords for which evidently the Chancellor was not prepared, and which, if taken advantage of as it is likely to be by limited companies, must have a very disturbing effect on the Budget estimates for the current tax-year. We refer to the decision as to the issue of bonus shares to the shareholders of a company. It has now been held by our highest Court of Appeal that when bonus shares are issued to shareholders the amount they represent is not liable to income-tax, although they are paid for out of the undivided profits of the company—money which would otherwise be paid in to reserve, and as such be assessable for income-tax. The importance of such a decision, bearing as it does upon income-tax, super-tax, and corporation duty assessments, is very great, and the general taxpayer who is not to be directly benefited by it may well feel uneasy lest it should prove the final factor required to compel the Chancellor to come forward with a supplementary Budget and fresh taxes.

At the conclusion of the Friday evening discourse on "The Structure of the Molecule," by Sir J. J. Thomson, at the Royal Institution, on June 17, the Duke of Northumberland, who was in the chair, presented a gold loving-cup, a gift from the members, to Sir James and Lady Dewar, on the occasion of their golden wedding. Sir James Dewar, who has been forty-four years resident professor and director of the laboratories, in replying, mentioned that during the whole of the nineteenth century the amount spent on the professors, laboratories, apparatus, and assistants was but 100,620*l*. There had been no State aid, and yet many world-renowned discoveries had been made within the walls of the Institution.



A New Study in Alchemy.

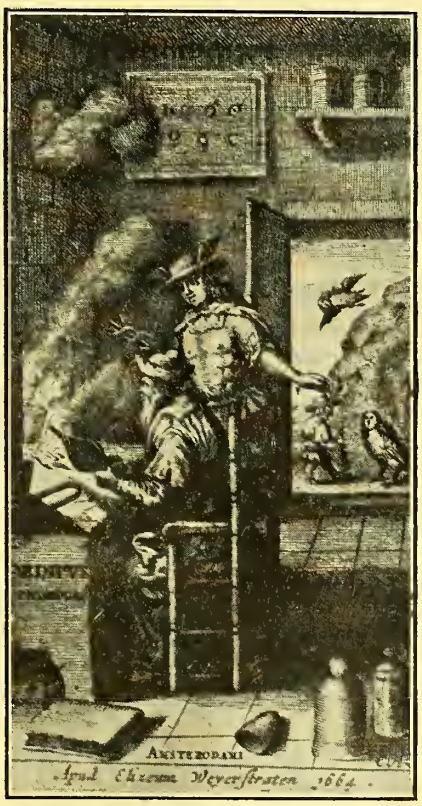
By C. C. BELL.



MODERN writers distinguish sharply between alchemy and chemistry, and some have gone so far as to say that the latter owes nothing to the alchemists but the apparatus they invented, and "the construction and happy application" of such furnaces as are still used in chemical research. Even those who so speak admit that we owe many valuable chemical discoveries to men who made the search for the philosopher's stone and the transmutation of metals one of their chief objects, but they do not class these with alchemists proper. The distinction appears, on the face of it, somewhat arbitrary. It would surely be more in accordance with fact to say that different, both in its objects and its methods, as modern chemistry is from what passed as chemistry in former times, it has nevertheless grown out of it, just as modern medical practice has grown out of the practice of former times from which it differs so much. The apparatus we have received from the alchemists, with whatever purpose invented, led naturally to many chemical discoveries; these again led to others, and so the eyes of men were gradually opened to truer views of the constitution of matter than the older alchemists were capable of; and gradually the sarcastic epigram on the alchemist became sober truth: "Chemist you might him call, and I think it were true, and leave out the al." We usually date the beginning of modern chemistry from Robert Boyle, whose "Sceptical Chymist" did so much to upset the old doctrine of the elements and principles on which alchemy was based, but in science as well as in politics revolutions are usually prepared for a good while before they actually occur, and it was so in this case. Van Helmont preceded Boyle by more than half a century, and he, too, has been styled the Father of Modern Chemistry.

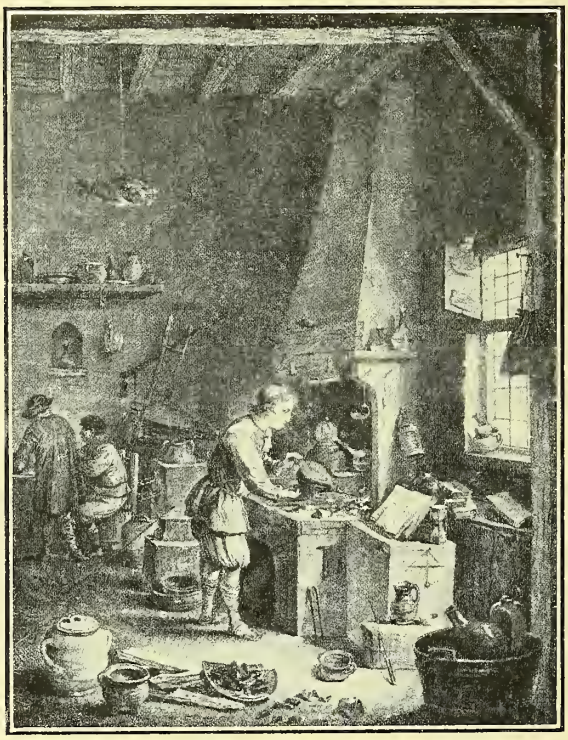
Whatever view we take of the relation of alchemy to chemistry, the debt that medicine undoubtedly owes to it is reason enough why it should be a subject of interest to pharmacists. Dr. E. Withington, while showing that "the higher criticism has played havoc among the mediæval alchemists," by proving most of the more famous old alchemical writings to be spurious and their reputed authors (or some of them) little better than myths, goes on to say: "There is little doubt, however, that the best influence of the Arabic writers on medicine was the importance they attributed to alchemy for the discovery of new drugs and the proper synthesis and fermentation of compound remedies."

The theory of alchemy is, if possible, even more obscure than its history. Not only are many of the treatises in which it is supposed to be expounded of doubtful authenticity, but they are written in such a jargon as to be very largely unintelligible. The writers evidently had often no clear understanding of their own meaning, and they were also designedly obscure regarding whatever notions they had as divinely inspired and not to be divulged except to those divinely prepared to receive them. Certain definite doctrines they had, however, in common, and it is necessary to know what these were before attempting to understand the theories based upon them. They recognised, then, only four elements—air, earth, fire, and water; the metals they did not regard as elements. Even the elements themselves they considered rather qualities than substances, earth standing for dryness, air for coldness, fire for heat, water for moisture. The action of these upon one another produced the three principles—for they were rather principles than substances, and must not be confused with the substances we know by the same names—of mercury, sulphur, and salt. The elements, again, were the remote, and the principles the immediate causes of the metals, the former producing what was called their seed, which the principles matured and perfected. Every class of things had its own seed, and to obtain this was to have the power of producing the thing that sprang from it.



No. 1.—THE ALCHEMIST AT HIS FURNACE.
Engraved Frontispiece to J. J. Becher's "Œdipus Chymicus," 1664.

It is easy to see how these ideas, being applied specifically to the seven metals, gold, silver, mercury, iron, lead, copper, and tin, led to the further idea of transmuting them one into another, the metals themselves being regarded as essentially rather properties than substances. Gold, for instance, the most perfect of the metals, was the most perfect form assumed by *goldness*, a property supposed to be latent in all metals, every one of which would be gold if it could. Nature was thought to be always trying to make gold, and the other metals were her failures in this endeavour. The work of the alchemist was to complete her design by bringing out and making evident the golden property hidden in them. This, as Hermes Trismegistus says, "was to be done [it is thus that Miss Evelyn Underhill quotes from the Hermetical writings] by the Noble Tincture, the philosopher's stone, the concealed stone of many colours, which is born and brought forth in one colour." This mysterious substance had a hundred names, and is described in such various and contradictory

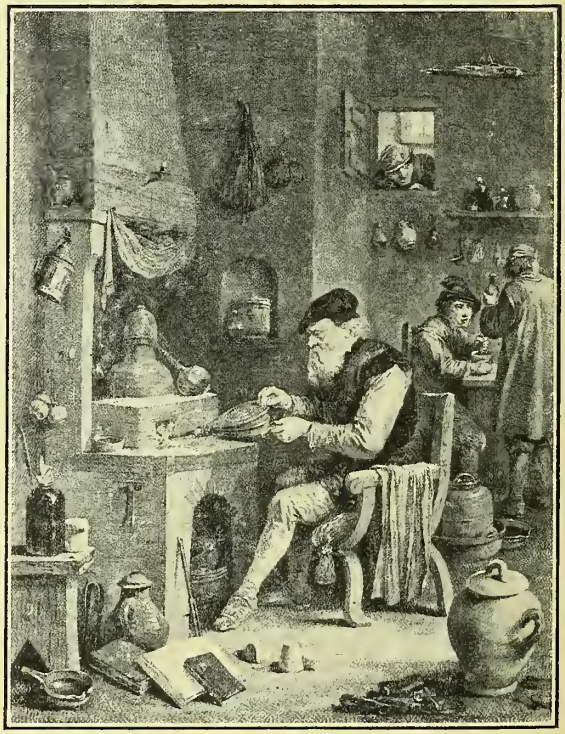


No. 2.—The Laboratory.
Engraved by Thos. Major after the painting by David Teniers.

terms that it is impossible to give in brief space (or, indeed, at all) an intelligible account of it. A stone in the usual acceptation of the word it was not. It is generally spoken of as a powder; as first obtained, it was black or dark grey, but it turned first white and then red as its purification proceeded. By some adepts it is described as a single substance, as One, or the One Thing; by others as a compound of the three principles, mercury, sulphur, and salt; and by others as a mixture of gold and mercury. Mercury is always present in it, and some of the later adepts declare that it is derived from mercury alone. These terms, however, do not represent the substances to which we usually apply them, but their rarefied essence, a thousand times beyond the purity of the metals we know. Mercury, for instance, is the sophic or philosopher's mercury, sulphur sophic sulphur, and so on. To obtain these the metals were first stripped of their external wrapping by the destruction of all but their essential properties, and then raised to a new life, the idea being that of resurrection from a physical death. This readily lent itself to the doctrines of the Rosicrucians and other religious mystics. It has, indeed, been seriously argued that alchemy was from the first and in itself a mystical doctrine in which was symbolically set forth the new birth and perfection of the soul of man. Absurd as this theory is in the light of history, it was believed by Jacob Böhme and the mystical school he founded to be the secret of alchemy, a fact which has probably done much to discredit it in the minds of strictly scientific writers.

Even when obtained, the stone was but the first matter of the *Magnum Opus*. It was the Azoth, the philosopher's egg, which before completion had to pass through the twelve gates of Calcination, Dissolution, Separation, Conjunction, Putrefaction, Congelation, Cybation, Sublimation, Fermentation, Exaltation, Projection, and Recapitulation, a process analogous to that by which the metals themselves were to be purified as described above. Our English Ripley, in a poem dated 1471 (quoted by Brande from Ashmole), describes it in the terms we have used, and calls the product a triune microcosm, which requires an astronomical year for its preparation. There is no wonder that it was a rare thing, and that even many of the most famous alchemists, so-called, do not profess to have discovered it for themselves, but say it was given to them by some (usually mysterious) stranger. The real wonder is that men like Van Helmont and Helvetius should believe themselves to have, by means of it, turned lead or other metals into gold, or, not being really convinced of this, should profess to have effected such transmutation.

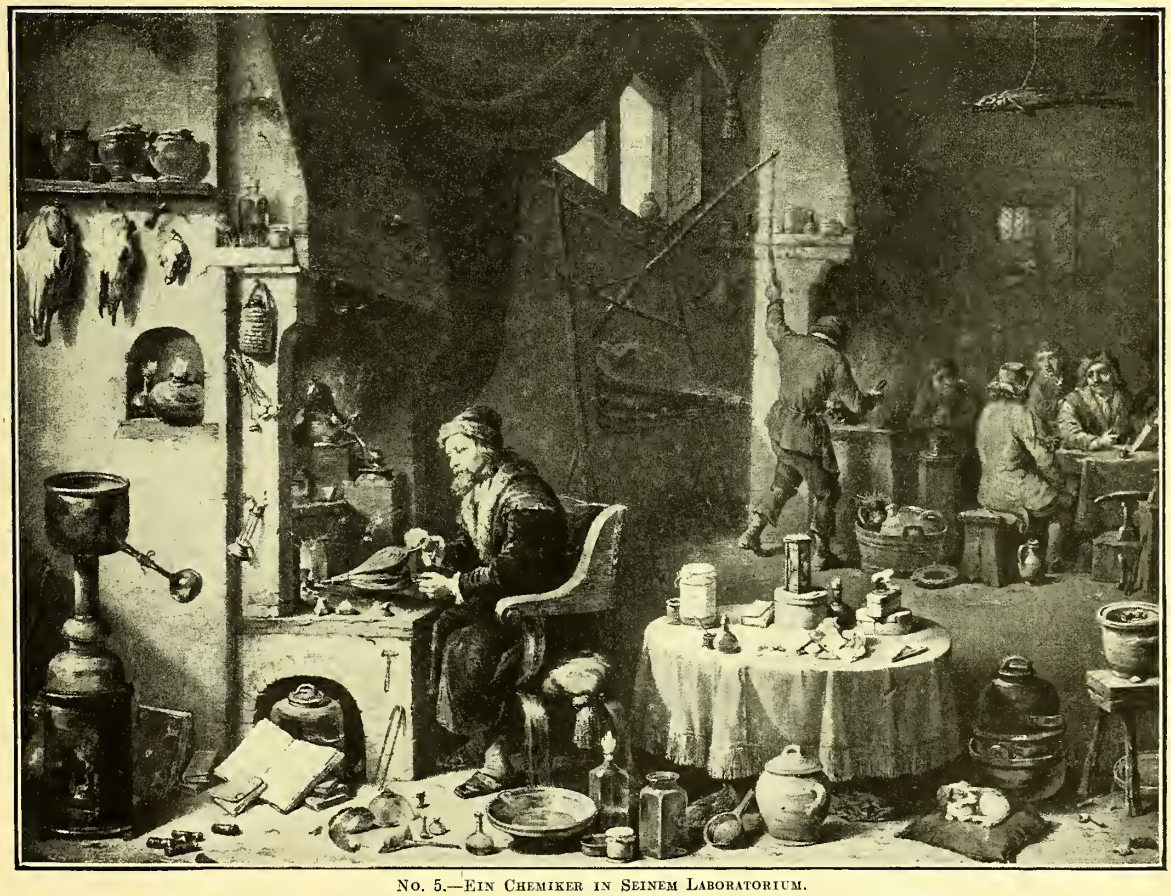
The history of alchemy begins with the writings attributed to Hermes Trismegistus, apparently an entirely mythical person alleged by some to be identical with Moses, or at any rate a contemporary of that prophet, whose sister Miriam (Maria), they would have us believe, gave her name to the *Balneum Mariæ* so prominent in chemical history. The Hermetical writings are now usually regarded as dating from the third or fourth century of our era, but even this is doubtful. Brande calls them "a farrago of occult philosophy." To obtain the philosopher's stone we are directed to "catch the flying bird" (by which is meant the fixation of mercury by uniting it to gold), and then to plunge it into the "well of the philosophers (*aqua regia*), by which its soul will be dissipated and its corporeal parts united to the red eagle," or muriate of gold. Mr. Waite, in his "Lives of the Alchemystical Philosophers," ignores Hermes altogether, and begins with Geber, whose true name is given as Abou Moussah Djafar al Sofi. This sounds like Arabic, and his birthplace is said to have been Haman, in Mesopotamia; but others will have it that he was a Greek, or a Persian of Thus, or a Spanish Arab born at Seville. One is led to suspect that in spite of the 500 treatises credited to him there really was "no sich a person," but fragments of the writings attributed to him still exist. They were published in 1682, and, though they are more or less suspect, many good authorities accept them as of respectable antiquity, dating from the eighth to the twelfth century. Geber, whoever he was, "deserves to rank first among the chemists and alchemists who flourished prior to Van Helmont," and is "for the history of chemistry what Hippocrates is for



No. 3.—The Chymist.
Engraved by Thos. Major after the painting by David Teniers.



No. 4.—LE CHIMISTE.
Painting by David Teniers, 1649. Engraved by J. Ph. Le Bas. Formerly in the Bridgewater Collection.



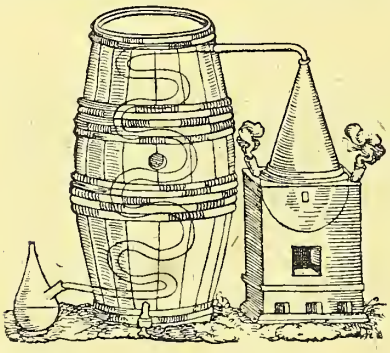
No. 5.—EIN CHEMIKER IN SEINEM LABORATORIUM.
After a mezzotint from the original painting by David Teniers in the Dresden Gallery.

the history of medicine." He is credited with the discovery of corrosive sublimate, red precipitate, nitric and nitro-muriatic acid, and nitrate of silver. Rhasis is a more certainly historical character. He was a Persian, born at Ray In Irâk, on the frontiers of Khorassan. His services to medicine are what have chiefly made him famous (see Wootton), but, though some of the twelve treatises bearing his name are probably spurious, he was undoubtedly a believer in the transmutation of metals. Indeed, he lost his life through the violent treatment he received from the Emir Almansour, of Khorassan, for failing to effect a promised transmutation in his presence. Alfarabi was an Arabic physician (a Turk by birth) of the tenth century, whose writings (the chief of which was a sort of encyclopædia) treat of alchemy along with most or all of the "sciences" of his time. Still more eminent was Avicenna (Ebn Sina), born about 980 at Bacara in Persia. He, like Rhasis, is most renowned as a physician and writer on medicine (his representation on the arms of the Pharmaceutical Society testifies to this), but six or seven treatises on alchemy are attributed to him, some of which



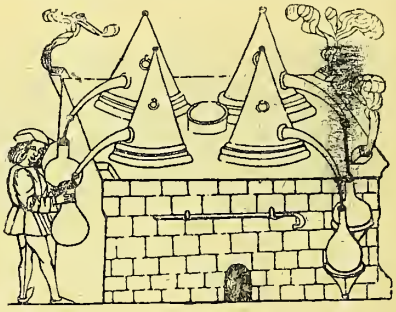
No. 6.—Le Chimiste.
Painted by Franz v. Mieris, engraved by Carl Guttenberg. Formerly in the Orleans Gallery.

for himself. They were both, however, men who cannot be denied the right to be regarded as, for their age, scientifically well equipped. Albertus declares that some alchemically produced gold submitted to him for examination did not stand the tests he applied, but this did not make him abandon his belief in the possibility of transmutation undertaken upon the principles of Nature, and the alchemical works attributed to him are said to prove that for his time he was a skilful practical chemist. His surname Magnus, by the way, represents his family name de Groot, and has no reference to his achievements. The application of alchemy to the extension of human life principally interested Bacon. He held that the production of the finest gold by transmutation was possible but extremely rare; in the virtue of *arum potabile*, however, he seems to have been a firm believer. Space forbids us to name half the famous alchemists dealt with by Mr. Waite (to say nothing of others), but both the somewhat mythical Lully and the better known Arnold de Villa Nova, who both claim to have themselves produced gold, must be mentioned here. The story of Lully's having visited England at the invitation of Cremer, Abbot of Westminster, and made gold out of which Edward III. coined rose nobles has been disproved. There never was an Abbot of Westminster named Cremer, and the adept who professed to have produced the gold in question was not Lully but Sir George Ripley, of whom mention has been made above. There is grave reason to doubt, indeed, whether the author of the works attributed to Raymond Lully had anything in common with the Spanish nobleman and martyr so called, except the name, but this does not affect the fact that he had a considerable knowledge of chemistry, and was an avowed alchemist. His chief claim to consideration is for the improved method of distilling spirit of wine which he invented. Arnold de Villa Nova, a few years

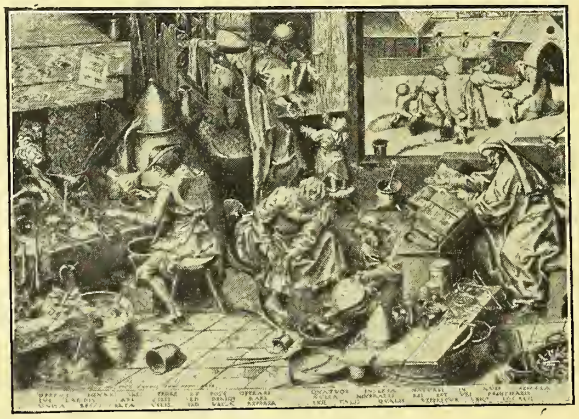


No. 7.
Distilling Apparatus of 1560.
Woodcut from G. Ryff's "The Distiller's Book," 1567.

No. 8.
An Alchemist's Distillation Stove of 1500.
Woodcut from Brunschwygkh's "New Book on Art of Distilling," 1500.



are accepted as genuine. In the "Tractatulus Alchimiæ" he treats of the nature of sophic mercury and sophic sulphur, from which every mineral was originally created by God. Mercury is the universal vivific spirit, the grand metallic elixir, both to the white, or silver, and red, or gold producing degrees. The *prima materia*, however, he describes as of a duplex nature, and the duplex elixir derived from it as of a spiritual nature, with powers beyond Nature. Such impossible stories are told of Albertus Magnus, as of his contemporary Roger Bacon, and such magical feats attributed to them, that it is rather disappointing to find that though they both profess belief in alchemy, neither seems to have claimed the power of transmutation



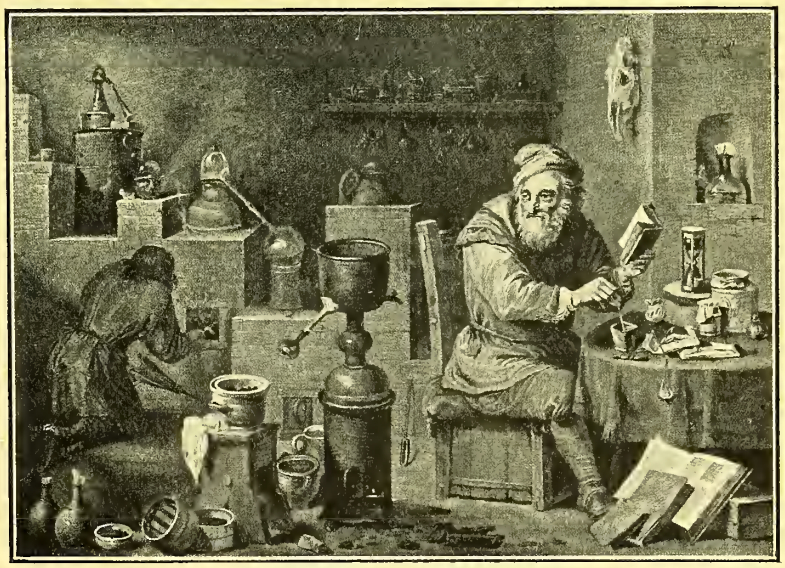
No. 9.—An Alchymist's Home in the 16th Century.
Engraved by H. Cock after the painting by Pieter Breughel.



No. 10.—A CHEMIST'S LABORATORY.

Engraved after the painting by David Teniers at Buckingham Palace.

younger than Lully, is credited with having first acquainted him with the distillation of spirit. Arnold's skill as a physician led to his being charged with magical practices, and his books were publicly burned by the Inquisition of Tarragona. He claimed to have produced gold which answered all tests, and his alchemical writings, published in 1509, are said to be more clear than those of most adepts. He asserts that quicksilver is the medicine of all the metals; sulphur the cause of all their imperfections. The philosopher's stone is a simple substance existing in all bodies, including common quicksilver. The first physical work is the dissolution of the stone in its own mercury to reduce it to its *prima materia*. All the operations of the *magnum opus* are then described. Nicholas Flamel (born about 1330) is perhaps the most famous of French alchemists. He was by profession a scrivener, and acquired his interest in alchemy from the old MSS. he was set to copy. One of these especially, containing a dedication addressed to the Jewish nation by Abraham, excited his curiosity. It was years before, after search over half Europe, he met with a man who could interpret its Kabbalistic characters. At length, in Spain, he met with a Jew who furnished him with the key, by means of which he was enabled to read the book, and putting its directions into practice, he produced gold in such quantities as to become enormously rich. Rich he undoubtedly did become, though by what means is not apparent. He continued, however, to follow his profession of scrivener, and to live in a quiet, humble way. His wealth he spent in charity and public works, on a scale that might entitle him to be considered the Carnegie of his day. Basil Valentine is a familiar name to all who know Wootton's "Chronicles." It is only as an alchemist that we speak of him here. He is famous for his use of antimony in medicine, but it is perhaps not so well known that he regarded it as a deadly poison to all who were not acquainted with alchemical secrets. It should be added that his date, and even his identity, are in dispute. Bernard Trévisan, born 1406, the son of a physician of Padua, began the study of alchemy at fourteen years of age and continued it during his whole life, experimenting upon all sorts of substances, mineral, vegetable, and animal, but especially on sea salt, sulphate of iron, vinegar, mercury, silver, and lead. Up till seventy-three years of age failure after failure was the only result, but he then succeeded in discovering the great secret, and two years afterwards put it to the test with complete success. Gold he declared to be nothing but mercury coagulated with sulphur, but unfortunately he did not explain how it may be done. Passing over the English alchemists, Thomas Norton of Bristol (who was robbed of the result of his discovery of the stone by the wife of a future mayor of the city, who built the steeple of St. Mary's Redcliffe), Thomas Dalton, and Sir George Ripley, we come to Paracelsus, who is mainly responsible for the mystical interpretation of alchemy to which reference has been made. He believed firmly in the physical truth of alchemy, and professes to have received his initiation into it from a generous Arab whom he met in Constantinople, who gave him not only the secret of the universal solvent, but a portion of the substance itself. The process of converting other metals into gold by its means is, however, he declares, so tedious and expensive as not to be commercially worth while in comparison with the psychic method he professes to expound. This alchemy begins, he says, in the transformation of evil into good, of vice into virtue, from which follows the knowledge of the nature of the invisible elements, and thence the transmutation of metals, the raising of them to higher levels. Actual, material gold can thus be (as Mr. Waite puts it) psycho-chemically manufactured. By this amazing theory (which was, however, partly implied in some of the old alchemical writings) Paracelsus started a new school of alchemy. After his day alchemists were divided into two schools—the practical workers, whose experiments led to discoveries upon which the science of modern chemistry is founded; and those visionaries, such as Khunrath and Maier, who developed his more mystical doctrines into a sort of mock-alchemy which did as much to bring the very name of alchemy into contempt as did the impostures



No. 11.—A CHEMIST'S LABORATORY.

Engraved by Parée after the painting by David Teniers. Formerly in the Musée Français, now at The Hague.



No. 12.—Basil Valentine, Thomas Norton, and Abbot Cremer of Westminster.

From the "Museum Hermeticum," Frankfurt, 1677.

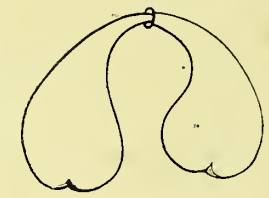
of men like Kelly, Dr. Dee, and Cagliostro. With these we have nothing to do, nor will space allow more than a mention of Sethon, Svendivogius, or the pseudonymous Eirenæus Philalethes, whose writings are of some historical importance. Glauber's is a greater name than any of these, but he, too, must be passed over in silence, unmistakable alchemist though he was. Something must, however, be said of Van Helmont and Helvetius. The former, whose high character and scientific attainments are universally acknowledged, was a professed disciple of Paracelsus, and claimed to have himself transmuted mercury into gold. He describes the philosopher's stone as a powder resembling saffron in colour, but heavy and shining, like pounded glass. With a quarter of a grain of it, given to him by a Paracelsian chemist, he made (so he tell us) a projection upon eight ounces of quicksilver, heated in a crucible, and immediately all the quicksilver was congested into a solid mass, which proved when melted to consist of eight ounces, less eleven grains, of pure gold. This, from such a man, a disinterested student of chemistry, and the discoverer of carbonic-acid gas, gives us pause. It is as impossible to believe it as to explain it on any other hypothesis than its truth. No less puzzling is the well-known case of Helvetius, who swears to having turned half an ounce of lead into pure gold by means of a "small crumb" of the powder of projection given to him by a stranger who afterwards disappeared as mysteriously as he had come. This was in 1666. Brande, who reproduces the story from Helvetius's own recital, makes no attempt to explain it, beyond a general remark upon the suspicious character of all such stories. We may agree with this, but it is hardly a more satisfactory explanation than that of Athanasius Kircher, the German Jesuit, who, having himself effected a similar transmutation with a powder given to him in a similarly mysterious way, decided to regard the whole affair as a temptation of the devil, and forthwith burnt all his books and abandoned his alchemical pursuits.



An Alembic.
Woodcut of 1500.

We who cannot accept this explanation are left with an insoluble problem. Unless we admit that there is no limit to human gullibility, we must either charge these men with gross and quite purposeless lying, or fall back upon Hamlet's saying that there are more things in heaven and earth than are dreamt of in our philosophy. The problem, however, is not more difficult than some we have been faced with elsewhere. We have known statements made by scientific men in our own day which to most of us are as incredible as anything told us by Helvetius or Van Helmont. Here again it is perhaps easier to deny than to explain the phenomena, but the moral difficulty of denial is as real as the intellectual difficulty of explanation. We may, however, as regards alchemy at any rate, say that all the old errors and superstitions did not die with the dawn of the new science. Boyle himself admitted the possibility of transmutation, and Sir Isaac Newton, in his youth, attempted it. Even to-day there are men living who believe not only in its possibility but in its having been actually effected by some of the adepts, and if we cannot share the belief we may reasonably hold that, in spite of their mistakes and illusions, the alchemists did really lay the foundations of modern chemistry.

Much of interest could be written regarding the evolution of chemical theories. The Aristotelian doctrine of the four elements or that of Paracelsus of the three constituents of matter was first doubted by Van Helmont. It is to Boyle, however, that we owe the complete overthrow of the Aristotelian and the Paracelsian doctrine of the elements and are enabled to begin a new chapter in the history of chemistry. Boyle first grasped the idea of the distinction between an elementary and a compound body formed by the union of two or more simple substances. To Becker and Stahl are due the first explanations of the facts of combustion. It was the discovery of oxygen, on August 1, 1774, by Joseph Priestley, that heralded the birth of modern chemistry. The advantages of approaching the study of chemistry by the historic method is now recognised in the universities and higher science colleges, and students of pharmacy whose life's work is bound up with one of the original purposes of the alchemists would do well to devote a little time to this fascinating period of the history of chemistry.



A Retort.
Woodcut of 1500.



No. 13.—Masters and Symbols of Alchemy.
An elaborately symbolical engraved title-page from Oswaldus Crollius' "Basilica Chymica," Frankfurt, 1612.

Notes on the Illustrations.

No. 1.—"ŒDIPUS CHYMICUS," by J. J. Becher. A beautifully printed 12mo. volume, first published at Amsterdam in 1664. Treats of the chemical mysteries in seven divisions. This frontispiece precedes the title-page and shows the alchemist at his furnace, his labours watched and presumably assisted by Hermes with the twined-serpent rod. Above are alchemistic symbols for lead, tin, iron, gold, copper, mercury, and silver. Becher is chiefly famous for the theory of combustion on which Stahl based the phlogiston theory. He died in London in 1682. He endeavoured to turn Danube sand into gold for the Emperor Leopold I.; a few years later he was reading a paper before the Royal Society of London, and, as a metallurgist of renown, inspecting the Cornish mines for the Crown.

Nos. 2, 3, 4, 5, 10 AND 11.—All after paintings by David Teniers, the younger. The engravers and present situation of the originals (where known) are stated under each reproduction. Smith's "Catalogue Raisonné" (Parts III. and IX.) lists nineteen paintings of alchemists and their laboratories by Teniers, of which many are not now easily traced. Alchemy and medicine afforded Teniers many of his favourite interior and figure studies. He was born at Antwerp in 1610 and died in 1694.

No. 6.—"LE CHIMISTE," after Franz v. Mieris. This is the only subject of the kind by the younger Mieris known to Smith.

Alchemical subjects have also been painted by Van Ostade and Jan Steen.

Nos. 7 AND 8.—DISTILLING APPARATUS. Alchemical operations introduced distillation products to materia medica, and the demand for distilled waters and spirits resulted in great progress being made in the fifteenth and sixteenth centuries in the improvement of the alchemist's retort or alembic into apparatus such as that with the worm condenser shown in No. 7. Apparatus substantially in these forms is still employed.

No. 9.—"AN ALCHYMIST'S HOME IN THE SIXTEENTH CENTURY," after Pieter Breughel (1564-1637). This painting presents graphically the reverse side of the alchemical life. Although there is in it a touch of caricature, it is, on the whole, a candid and vivid presentment of the practical result of the pursuit of the alchemist's *ignis fatuus*. A full description of this painting was given in the *C. & D.*, lv., p. 175. The wording beneath the illustration is an interesting example of the obscurity with which alchemical doctrines were clothed. The following translation and paraphrase are offered tentatively, but probably represent the general sense:

The ignorant ought to bear things and after operate.
The law of the stone dear cheap but in fine rare.
A unique thing certain, cheap, but everywhere found
Inserted in four natures in the cloud found.
No mineral thing there is where [it is] principal,
But [it is] such as is found everywhere local.

Conundrum.—The uninitiate must collect their materials and effect the process of the stone; a stone at once dear but cheap, yet, finally, rare. It is a thing unique, certain (in its operation), yet found everywhere; enclosed in (the) four natures (i.e., elements), found in the cloud. There is no mineral in which it is the principal component, yet it is of such a nature that it is found everywhere as a local product.

Answer.—The Philosopher's Stone.

No. 12.—Engraved title-page from the "MUSEUM HERMETICUM," 1677. This is a title-page to a section of this bulky volume headed "Tripus Aureus, hoc est, Tres Tractatus Chymici Selectissimi, Nempe I. Basilii Valentini. Benedictini Ordinis Monachi . . . ; II. Thomæ Nortoni, Angli Philosophi . . .; III. Cremeri cuiusdam Abbatis Westmonasteriensis Angli Testamentum, . . . nunc . . . editi . . . Michaelis Maieri, Phil. & Med.D. Francofurti," 1677. The three figures in the engraving are obviously those of the authors of the three tracts. Basilius Valentinus flourished about 1413; John Cremer, Abbot of Westminster, was supposed to have worked in the fourteenth century, but, as stated above, his existence is probably imaginary; and Thomas Norton experimented in the latter half of the fifteenth century.

No. 13.—Title-page from the "BASILICA CHYMICA," of Oswaldius Crollius, 1612 edition, the first edition having appeared in 1609. It is an elaborate symbolic engraving with portraits of masters of the art and mystery of alchemy. On the left side are:

(1) HERMES TRISMEGISTUS, the reputed author of the Smaragdine Table, "cherished and revered" (as Ferguson puts it) by alchemists throughout the ages, yet a profound and unsolved mystery in all its aspects. Alchemy has always been known as the "Hermetic Art," and the discovery of an Hermetic papyrus of 1550 B.C. (the period when the legendary Hermes was supposed to have flourished) deepens the interest which the mystery has for archæologists.

(2) MORIENUS, a Roman, said to have been the teacher of Khalid ben Yazid of Egypt (died 708), who wrote the first Mohammedan treatise on alchemy. His conversations with Khalid (in which he declares he had discovered the elixir) were first translated from the Arabic in 1182.

(3) RAYMOND LULLY, flourished about 1340, a voluminous writer on the arts and sciences, law, medicine, philosophy, logic, and his own art, alchemy. He is credited with 400 volumes and was reputed to have made gold for Edward III. of England on the invitation of the legendary alchemist Abbot John Cremer of Westminster (who is portrayed in illustration No. 12) to finance a war against the Turks.

On the right side are portraits of:

(1) GEBER, the Arabian alchymist, said to have lived at Damascus and died about A.D. 776. Arabian MSS. attributed to him are preserved in Leyden and Paris. He is called in the first printed work bearing his name (1473) "Maximi Philosophi . . . Regis Geberi Fœliciter," and that, perhaps, represents accurately his mediæval reputation.

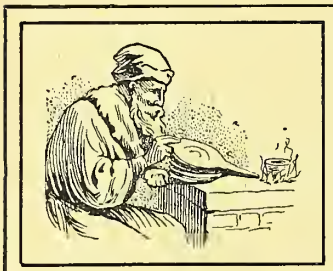
(2) ROGER BACON, the English alchemist and scientist (1214-94), who gained, by his remarkable skill in mathematics and experimental science, a reputation as a magician, as exemplified in Greene's "Honourable Historie of Frier Bacon" and many other plays. His "Opus Majus," a treatise on the sciences written at the request of Pope Clement IV., was "one of the most important and significant works of the time" (Ferguson).

(3) THEOPHRASTUS PARACELSUS (1493-1541), physician, alchemist, philosopher, and controversialist, was denounced, on one hand, as quack and vain boaster (his real name was Bombast von Hohenheim), and hailed, on the other, as a new prophet of medical science. He destroyed the doctrines of Avicenna and Galen and revolutionised medicine in the sixteenth century by his endeavours to carry out in medical practice the results of his own experience, gained in his wide travels, rather than conform to the orthodox book knowledge of his time.

The symbolism of the plate is extremely interesting and not of great obscurity, but it is not possible to discuss it in detail here. The close association between theology and alchemy in symbolism may perhaps be noted. In the circle at the bottom of the engraving we have, surrounded by the sciences—"Cabala Theologica," "Magia," "Halchymia," etc.—a series of trinities within each other, thus: Fire, Air, Water; Soul, Spirit, Body; etc.

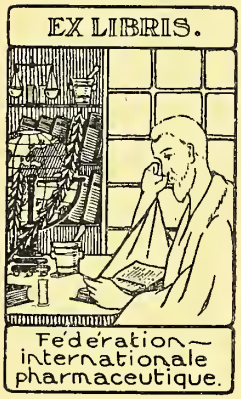
Other alchemical pictures have been reproduced in the *C. & D.*, vol. lv. p. 175, lvi. p. 136, lvi. p. 916, and lxviii. p. 153.—*S. G. S.*

It has been suggested to us that some of our readers may like to have prints or enlargements of the alchemical pictures used in this article for pictorial purposes in the pharmacy or in advertisement matter. We can arrange for the supply of these reproductions and will be glad to give particulars on application.



Pharmaceutical Book Plates.







Professor Van der Wielen's Bookplate.



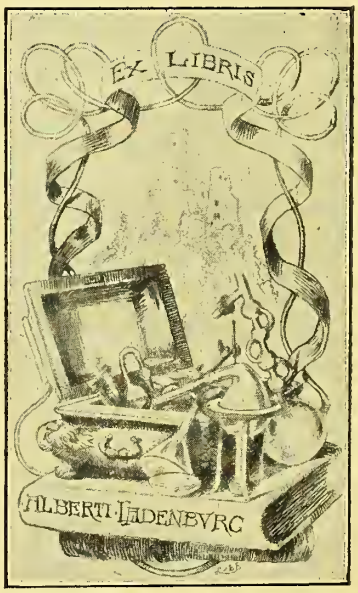
The article on "Pharmaceutical Book Plates" in last year's annual Special Number (June 26) brought us several communications from readers at home and abroad, to some of whom we are indebted for examples of more modern plates than those reproduced in the article referred to. These we acknowledge with thanks. Among the book plates are two copies of that of the late Sir William Crookes, which are good specimens of what is called canting heraldry. We are not sufficiently versed in the art to interpret it fully, some of the "charges" being obscure to us. The shield bears on a field or a chevron vert between two crosses patée and a radioscope proper. The chevron is charged with three prisms. Above is a knight's helmet with crest, an elephant quarterly or and vert charged with two crosses patée, the off fore foot resting on a prism. The motto, *ubi crux ibi lux*, contains an obvious pun, which recalls an incident related by one of our correspondents. He was discussing some Geissler vacuum tubes with the foreman of Stevens' auction-rooms, and incidentally referred to Crookes' tubes, when a gentleman standing by intervened with a correction of something he had said of them. Our correspondent defended what he had said. "But I *am* Crookes," said the stranger; and when the jesting reply was made, "Oh, then, I am Röntgen," the foreman broke in, with a laugh, "If there are *crooks* and *wrong 'uns* about, I must see you don't pinch anything."



Professor Van der Wielen, of the University of Amsterdam, very kindly sends us the book plate of the University Laboratory Library, along with his own, which is of great artistic merit; and we have also to thank Dr. J. J. Hofman, of The Hague, for copies of the plate of the International Pharmaceutical Federation, and a singularly beautiful one of the late Dr. A. Ladenburg, Hanbury medallist. The apparatus he invented for fractional distillation, along with others, is represented on the plate. On the back of the book on which they stand is the name Alberti Ladenburg.

In addition to these we have received a very interesting communication from Mr. Edward Kremers, of the University of Wisconsin, who tells us that his daughter, in conformity with the University requirements for a Bachelor's degree, has written a treatise on "Pharmaceutical and Related Book Plates," which may possibly be published, as we sincerely hope it will.

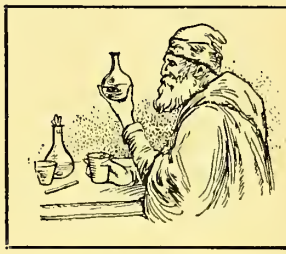
The "Journal of Industrial and Engineering Chemistry" recently published a copy of the book plate of Joseph Priestley, which was in one of the books that formed a part of Priestley's library at the time it was pillaged during the Birmingham riots of July 1791. The plate was engraved by Allen, of Birmingham, and represents a stream of water gushing through a spout from under a massive rock into a smooth glassy pool. A stone curb, overgrown with grass and flowers, surrounds the spring, on one side of which lies a cup for the convenience of the thirsty wayfarer. The moss-covered rock above the pool has carved upon it the name Joseph Priestley.



We cannot help reflecting that in pharmacists' libraries book plates are seldom used abroad, and hardly at all in this country.



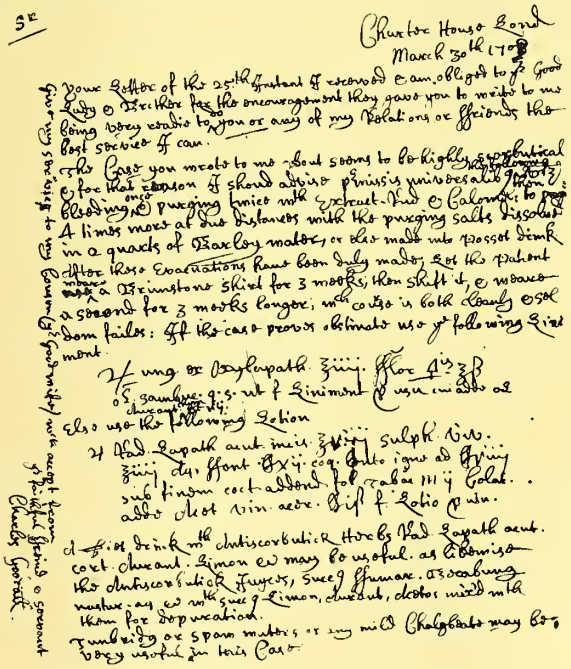
A Consultation in the Olden Days.



THE interesting letter which is reproduced on this page (from the original in the possession of Mr. E. W. Bligh, which has been kindly lent by him) was written from the Charterhouse in 1708 by Charles Goodall, M.D., President of the Royal College of Physicians from 1708 to his death in 1712, and physician to the Charterhouse from 1691.

Goodall was a man of character and of considerable medical learning. Born in 1642, during the Commonwealth, he studied medicine at Leyden and took the degree of M.D. at Cambridge in 1670. He then came to London, and in 1676 published the first of a series of works in support and advancement of the Royal College—"The College of Physicians Vindicated and the True State of Physick in the Nation faithfully represented." In the same year he became a candidate (i.e., Member) of the College, and four years later a Fellow. Thereafter he devoted much of his time to the service of the College, publishing, among others, two treatises in 1684, one of which, "An Historical Account of the College's Proceedings against Empiricks and unlicensed Practisers in every Prince's reign from their first incorporation to the Murther of the Royal Martyr," is well known and contains much of interest in the history of unorthodox "practisers."

Goodall was Gulstonian Lecturer in 1685, Harveian Orator on two occasions, and Censor of the Royal College for four years, becoming President, as already stated, in 1708. From 1691 to his death he lived at the Charterhouse (whence the letter reproduced is addressed) as its physician. He was a friend and staunch supporter of



A LETTER, WITH PRESCRIPTIONS FOR SCURVY, 1708.
From Dr. Charles Goodall, President of the Royal College of Physicians, to an unknown correspondent.

Thomas Sydenham, whose unorthodox methods of studying and treating diseases aroused the bitter hostility of many of his colleagues. Sydenham showed his respect for Dr. Goodall by dedicating his "Schedula Monitoria de Novæ febris ingressu" to him in 1686, speaking in generous terms of Goodall's medical skill and personal character. Goodall was a friend also of Sir Hans Sloane, among whose MSS. in the British Museum are preserved seven of Goodall's letters to him (Sloane MSS. 4046), all of which are written in the beautifully clear hand which is shown by the example given here. Goodall died at Kensington (where he possessed a house) in 1712, being buried in the parish church.

Following is a transliteration of the letter and its prescriptions:

Charter House Lond
March 30th 1708

Sr

Your letter of the 25th instant I received & am obliged to yr Good Lady & Brother for the encouragement they gave you to write to me being very readie to do you or any of my Relations or ffriends the best service I can.

The Case you wrote to me about seems to be highly scorhutical & for that reason I should advise premissis universalibus the following viz. bleeding once & purging twice with Extract Rud.[1] & Calomel: then to purge 4 times more at due distances with the purging salts dissolved in 2 quarts of Barley water or else made into Posset drink. After these Evacuations have been duly made: Let the Patient weare a Brimstone shirt for 3 weeks; then shift it & weare a second for 3 weeks longer; wch course is both cleanly & seldom failes: If the case proves obstinate use ye following Liniment.

℞ ung. ex Oxylapath.[2] ℥iiij. fflor. ♃is[3] ℥ss.
ol. samhuc. q.s. ut f. Liniment p usu cui adde ol. aurant. chym. gtt. vij.

Else use the following Lotion

℞ Rad. Lapath.[4] acut. insis. ℥viij. Sulph. viv. ℥iiij. Aq. ffont. lb.[5] xij. coq. lento igne ad lb. viij. sub finem coct. addend. fol. Tabac m̈ij. Colat. adde Acet. vin. acer. lb. iss. f. Lotio p usu.

A Diet drink wth Antiscorbutick Herbs Rad. Lapath. acut. cort. Aurant. Limon &c may be useful as likewise the Antiscorhutick Juyces, succus ffumar,[6] Becabung[7] nastur. aq.[8] &c wth succus Limon, Aurant, Acetos mix'd wth them for depuration.

Tunbridg or Spaw waters or any mild Chalybeate may be very useful in this Case.

Give my service to my Cousin (yr Good Wife) wch accept from

Yr faithful ffriend & Servant
CHARLES GOODALL

The following notes on points of pharmaceutical interest in the prescriptions have been kindly made by a pharmacist learned in the old pharmacology. They correspond to the numbers inserted in the letter above:

[1] Ext. Rud. is the Extractum Rudii of the Edinburgh Pharmacopœia, consisting of rad. helleb. nig., colocynth, aloes soc., scammony, and essential oil of cloves. It received its name from Eustichius Rudius, its author.

[2] Ung. ex Oxylapatho, is the ointment of the sharp-pointed dock of the P.L.

[3] fflor. ♃is is flor. sulphuris, the old alchemical symhol being used.

[4] Rad. Lapathi is the root of the same sharp-pointed dock, much used in drinks for scorbutic complaints.

[5] lh. was used as a symbol of a pint, liquid measure.

[6] ffumar. This is fumaria (fumatory), the juice of which was much used in antiscorbutic drinks.

[7] Beccahunga. This is an old name for hrooklime.

[8] Nastur. aq.=Nasturtii aquatici, or water-cresscs.

Clearly the letter of an amiable man and a good and conscientious physician, as indeed all that is known of his history shows Charles Goodall to have been.—*S. G. S.*



Recent Applications of the Spectroscope.

By SAMUEL JUDD LEWIS, D.Sc., F.I.C., Ph.C.



The following is an abstract of three lectures on some recent applications of the spectroscope and the spectrophotometer to science and industry, delivered on April 11, 18, and 25, under the auspices of the Cantor Trust, before the Royal Society of Arts. The complete lectures will be published verbatim, together with numerous illustrations, by the Society in due course.

Just thirty-five years ago the late Professor Hartley delivered a somewhat similar lecture before the Society, and described the principles and construction of one of the earliest models of the quartz spectrograph, and spoke of the Cornu prism in the instrument as a novelty. To-day this prism finds a place in most quartz spectrographs intended for the investigation of the ultra-violet and visible regions of the spectrum, and the instrument itself has assumed a high degree of perfection. A figure of the latest model was published in The Chemist and Druggist, May 9, 1914, immediately after its first introduction. It is repeated here for the sake of those who



Fig. 1.—Spectrograph.

have not seen it (fig. 1). In general design its construction is extremely simple, but many subtle refinements contribute to its satisfactory working. With an instrument of this type most of the work of interest to the chemist can be done. The optical train is shown in fig. 2, where L is the lamp, light from which passes through the collimating lens, which renders the light parallel before it falls on the prism, in which the light is dispersed with the formation of the spectrum. The latter is then focused by a lens, either into the eye-piece

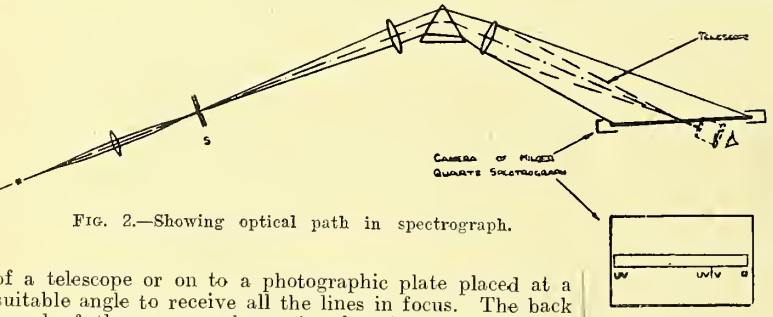


Fig. 2.—Showing optical path in spectrograph.

of a telescope or on to a photographic plate placed at a suitable angle to receive all the lines in focus. The back board of the camera shown in elevation below has an aperture in it 10 in. long by $1\frac{1}{4}$ in. broad, through which the spectrum passes to the photographic plate behind it.

In the space RV is found the whole of the visible spectrum from the red through orange, yellow, green, blue, indigo, to the violet; and beyond the violet is the ultra-violet, throughout the much longer space marked UV UV. On looking through the aperture in the visible region RV, the coloured lines of the spectrum may be seen, but beyond, all is dark. If a piece of uranium glass or other fluorescent body be passed along in this region it will become visible, due to the ultra-violet rays of short wave-length being degraded to visible light of longer wave-length. The advantage of using a quartz spectrograph instead of the ordinary visual spectroscope will be appreciated when one realises that whereas with a Bunsen flame and an ordinary spectroscope one is able to detect only the metals lithium, sodium, potassium, rubidium, cæsium, calcium, strontium, barium, indium, and thallium, with the quartz spectrograph one can not only detect all the metals and some of the non-metals in the ordinary course, but detect them in much smaller quantity and with certainty.

The spectrograph is related to the spectroscope in the same way as an ordinary camera is related to the telescope. With the latter the phenomena are observed visually, and no record remains. With the former the record is permanent, and may be studied when opportunity permits. The technique of the experiment is very simple. The slit of the spectrograph is usually fitted with a "wedge" having three apertures, wherewith one may expose either the upper, middle, or lower third of the height of the slit. The apertures are so related that the resulting photographed spectra are in juxtaposition, as in fig. 3. The lower aperture is first brought in front of the slit. Then, with a very simple "scissors" arc lamp (shown to the left of fig. 1), fitted with two vertical copper wires ($\frac{1}{4}$ in.) one above the other to serve as electrodes, an arc is struck and the spectrum of pure copper is photographed. The middle aperture is then brought in front of the slit, and on the top surface of the lower electrode a little (a few milligrams) of the substance to be examined is placed, and the arc struck again. A second spectrum photograph is taken; this will exhibit the spectrum of copper from the electrodes combined with the spectrum of the substance. After development, the two photographed spectra are found in juxtaposition on the plate as in the middle and upper bands in fig. 3. The lines characteristic of copper run through both bands. The lines due to the elements in the substance under investigation occur in the middle band only. (Due to optical inversion, the lower aperture corresponds with the upper photograph.) The numbers along the top indicate the wave-lengths. Only the portion between 40 (wave-length 4,000 Angström units, violet) and 70 (wave-length 7,000, red) belongs to the visible region; all the rest is ultra-violet.

It is now necessary to identify the several new lines either by comparison or by wave-length measurements, and ascertain the elements which they signify. Some of the lines are indicated in the figure. There are, however, several lines significant of each element; the total number of lines requiring identification is usually between 100 and 200 in the case of the ash of a drug or the like, and probably twelve or fifteen elements will be found. If a spark be used in place of the arc, the general procedure is the same, but the substance can rarely be exhibited in such simple fashion; it may, however, be employed in the form of solution, which is not easily possible with the arc.

Some examples of work done in this way may now be given. A single drop of London tap-water, on drying

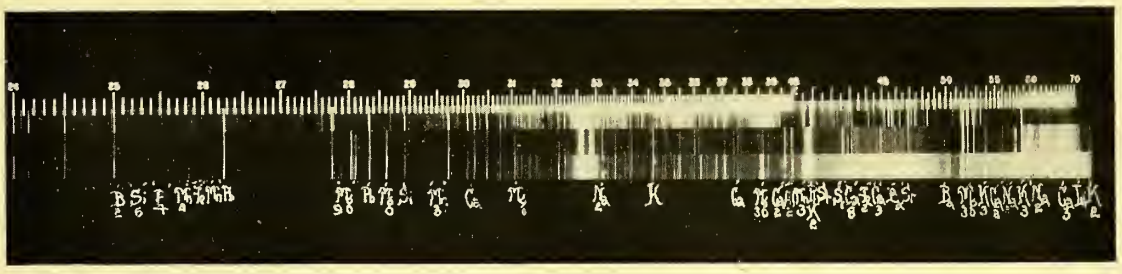


FIG. 3.—Comparison spectra of the ash of Baptisia root and of the tincture made from it.

down on an electrode and arcing, reveals the presence of the sodium, magnesium, and calcium it contains, although the total solids do not exceed the fiftieth part of a milligram or the three-thousandth part of a grain. In the ordinary course of laboratory work, the photograph registers the ten-thousandth part of 1 per cent. of lead when present in a complex mixture, even if only a few milligrams of the material are available. Thus the one-hundred-thousandth part of a milligram or the one-six-millionth part of a grain is sufficient not only for the detection, but also for the identification of the metal, while a fair estimate of the proportion present may also be made.

But the spectrograph is not merely a useful toy for discovering traces. It has much more important functions to perform. It will be recalled that one of the earlier applications of spectroscopy by Bunsen, Kirchhoff, and others was to the investigation of various natural waters, and that in the course of this inquiry rubidium, cæsium, and other elements were discovered. The spectrographic analysis of water from one of our British spas has revealed the presence of no fewer than nine extra elements—namely, lithium, strontium, barium, lead, zinc, chromium, aluminium, boron, and possibly silver, which found no place in a purely chemical analysis. In these days when the influence of minute quantities is so widely recognised, the rôle played by the long-continued regular assimilation of the less familiar elements by the human system cannot be regarded as insignificant.

Reference was also made to a spectrographic examination of the mineral constituents of certain tinctures and drugs, published in a paper read at the Chester meeting before the British Pharmaceutical Conference in 1914, a full record of which appeared in THE CHEMIST AND DRUGGIST. It was now pointed out that another fruit of such spectrographic researches was the knowledge derived respecting the movements of the inorganic elements of a drug in the course of a pharmaceutical process. In fig. 3 there are three spectra in juxtaposition. The first is that of the copper electrodes of the arc-lamp used. The second is the combined spectra of the electrodes and of the ash of the root of *Baptisia tinctoria*. The new lines express the composition of the ash. The third is the combined spectra of the electrodes and the ash of an alcoholic tincture of the same sample of drug. Here, similarly, the new lines reveal the elements present in the ash of the tincture. By comparing the new lines in the second and third spectra and marking their differences we see how and to what extent the relationship of one inorganic element to another has been affected during the process of tincture-making. For observe that the relative intensities of the lines indicate that although the process of tincture-making has made little difference to the proportions of the alkali metals, the proportions of the others have been more or less greatly affected. The alkaline earths have decreased—indeed, the strontium and barium have disappeared; and the same applies to iron, aluminium, silicon, and boron. Comparative work of this kind may be applied to many physiological investigations, whether animal or vegetable. The migration of inorganic elements from one part of an organism to another may be watched with very interesting and significant results.

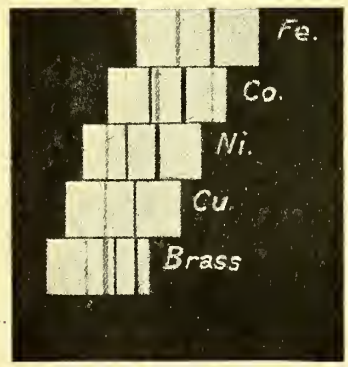


FIG. 4.—*X*-ray spectra of some of the elements. Note the two faint lines in the cobalt *X*-ray spectrum. One coincides with an iron line above, the other with a nickel line below, showing that the cobalt contained those elements as impurities. Also that in the "brass" two of the lines are copper; the other two are zinc.

Such comparison spectra assist in opening up many wide fields under exploration. By their means one may learn how two materials differ in composition without the necessity of making any direct analysis at all. This has proved so in the glass industry. Indeed, this "key industry" has been greatly assisted in its recent development by reference to the spectrograph. For instance, two glasses, "A" and "B," were examined in this way, and it was found that glass "B" contained a notable quantity of zinc, which was not the case with glass "A," and since traces of lead and arsenic were also present in "B" but not in "A," it may be assumed that they were introduced as impurities accompanying the zinc. The relative intensities of the lines indicate that "A" contains more calcium and silicon, but less magnesium and boron, than "B" does.

Thus in these various ways was demonstrated the value of the spectrograph as an aid to qualitative analysis. It remains to be seen to what degree the method can be made quantitative. That the work can be made quantitative was amply proved in the lecture by Professor Hartley thirty-five years ago. He analysed a sample of limestone by the spectrograph, and found it contained 3.5 per cent. of magnesium carbonate and 92.5 per cent. of calcium carbonate. He then analysed it by chemical methods, and found 4.45 per cent. magnesium carbonate and 91.78 per cent. calcium carbonate. The results agree closely enough, but the method was prejudiced by the large amount of trouble involved. His method was to convert the metallic elements into soluble chlorides and pass a powerful electric spark through the solution. The tendency in technological circles is to use an arc-lamp in somewhat the same manner as that already described. It is quicker and more convenient for practical work, and a fair degree of accuracy is attainable. For example, in determining nickel in fats the following figures were obtained in five cases.

—	Spectrographic % Ni	Spectrographic % Ni	Chemical % Ni
A	0·00004	0·00004	0·00001
B	0·00002	0·000035	0·00002
C	Absent or very little	0·00001	0·00006
D	0·000005	0·000005	0·00005
E	0·00004	0·00005	0·00005

The figures in the first two columns show that the values obtained spectrographically agree well among themselves; while in the third column it is seen that they are of the same order as the chemical figures, although not always of quite the same magnitude. All these results were obtained by ordinarily careful experiment in the course of the usual laboratory practice.

The method is being more and more widely used for determining the magnitude of traces of impurities in metals. For example, in five specimens of zinc the following proportions of cadmium were found :

—	Spectrographic	Chemical
A	0·002	trace
B	0·08	0·09 per cent.
C	0·18	0·16 ,,
D	0·16	0·15 ,,
E	merest trace	trace

All this goes to show that good useful approximations may be made by spectroscopic methods.

Next followed descriptions of the vacuum-tube spectra by the late Dr. James H. Pollok, of Dublin, in which beautiful banded spectra of certain compounds were observed; secondly, to the researches of Schumann, Lyman, and McLennan in the extreme ultra-violet region, for which a high vacuum has to be maintained in the apparatus since these very short waves are entirely cut off by the presence of even a little air; thirdly, to the *x*-ray spectra by Moseley, and their application to the elucidation of crystal structure by Professor Sir W. H. Bragg and his son. The progress of spectroscopy, as governed by advances made in means of illumination, was traced from the first spectrum made with sunlight, through spectra obtained with flames, arcs, and sparks, to those produced by the comparatively recently discovered *x*-rays. It was shown that some considerable time elapsed before the nature of *x*-rays was recognised to be merely that of light of extraordinarily short wave-length, but only recently has it been possible to obtain a spectrum of the rays owing to the difficulty of making a grating sufficiently fine to effect their diffraction. Open spaces in the Rowland grating with even 25,000 lines to the inch—that is, 100 lines to the mm.—are wide avenues for *x*-rays. In 1911 Dr. Laue, of Zurich, conceived the idea of using the ordered arrangement of atoms or molecules in a crystal as a natural grating sufficiently fine to produce a spectrum of *x*-rays in much the same way as an ordinary grating gives rise to the ordinary spectrum. Eventually, Professor Bragg applied the crystal as a reflection grating, and in this form it is usually used in the study of *x*-ray or high-frequency spectra. The most brilliant work in this field is due to the late Mr. H. G. J. Moseley in 1913 and 1914. It has been found that *x*-ray spectra characteristic of the elements are produced when the respective elements or their compounds are used to compose the anticathode in the *x*-ray focus tube. The *x*-rays, therefore, are allowed to fall on a crystal of potassium ferrocyanide, which serves as a reflection grating; the spectrum produced imparts its image to a photographic plate.

The most striking feature of the *x*-ray spectrum is that only a very small number of well-defined strong lines characterise each element, which is in strong contrast to the crowds of lines found in the ordinary spectrum. This is seen in fig. 4, which is reproduced from Moseley's paper. However, the most remarkable result of Moseley's work was that the wave-lengths of those lines having been determined, it was found that when the square roots of their frequencies by 10^{-8} were plotted as abscissæ against the atomic numbers of the respective elements as ordinates, that the points lay on straight lines, thus exhibiting a remarkable regularity, and making it possible to predict with confidence the position of the spectrum lines in elements as yet unknown

Spectrophotometers and especially a new sector spectrophotometer designed by the author were described in full detail with the aid of several slides illustrating both their construction and their application to the quantitative absorption of light by various compounds. The principle of the science and of the working of the spectrophotometer will be more readily appreciated by reference to the illustration. The photograph in fig. 5 shows several pairs of spectra. In each case the upper member is a normal spectrum of the light source, the lower is a spectrum of the same light after it has passed through a layer of a substance under examination; it is seen that much of the light has been absorbed. (The photograph is a negative, and hence the black lines are lines of intense light and the white patches are regions of darkness.) All the lower "absorption spectra" are identically the same. All the upper normal spectra are the same except for intensity. The intensity of each normal band was adjusted accurately to the desired values by means of a spectrophotometer. These values, expressed as percentages of the original intensity, appear at the end of each band. It is then seen that the first pair of spectra are equal in intensity at wave-lengths of 2,485, 2,597, 2,891, and since the whole of the normal band was adjusted to have an intensity equal to 22.16 per cent. of the original, it follows (1) that any one of its lines, and therefore the particular lines of 2,485, 2,597, 2,891 wave-length, had an intensity of 22.16 per cent.; (2) that the lines of the same wave-lengths in the absorption spectrum also had an intensity of 22.16 per cent., since they are equal in the two bands. Similarly, points of equality in each of the other bands may be determined and tabulated. From these data an "absorption curve" is drawn as described later. It is easy to conceive that for light of any given wave-

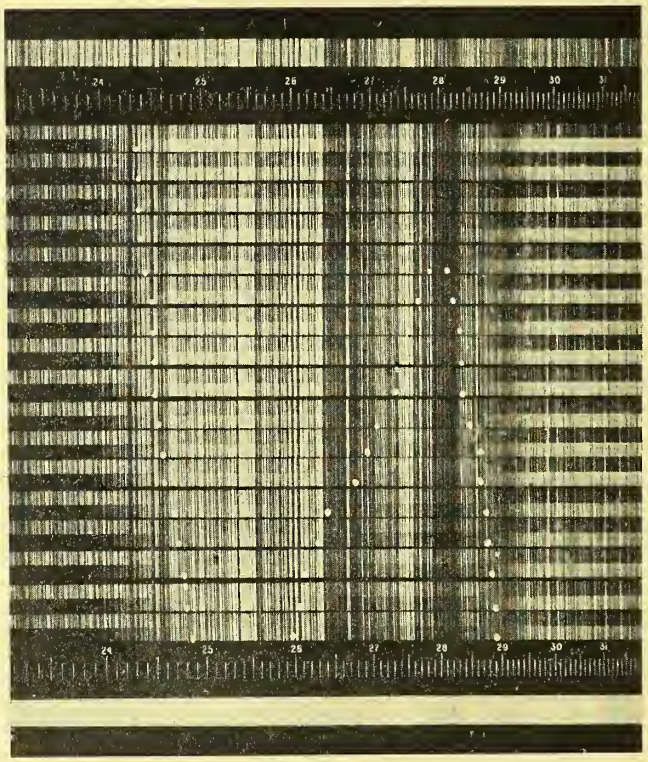


Fig. 5.—Absorption spectra.

length it will be possible to discover some thickness of the material under examination which will absorb exactly nine-tenths of the light—that is, which will reduce the intensity of the light to one-tenth. The necessary layer may be very thick for a clear substance like glass or quartz, or very thin for a dense medium like dark glue. In any case, the reciprocal $\left(\frac{1}{d}\right)$ of that thickness (d) is known as the extinction coefficient.

One of the first inquiries to be conducted by means of the new sector spectrophotometer, the first model of which appeared in 1914 (see *C. & D.*, May 9, 1914), was an investigation of the ultra-violet absorption spectra of blood serum, under the auspices of the Beit Research Fund Committee of the British Homœopathic Association, and it is largely due to that body that the sector spectrophotometer has been developed as it has. The work has proved most fruitful, and is at the moment far more promising than could reasonably have been anticipated.

The method of experiment is very simple; five or six drops of blood are collected in a capillary tube, the corpuscles centrifugalised out, and the clear serum transferred to a cell. After the thickness of the layer, which is less than the fifth of a millimetre, about $\frac{1}{1\,5\,0}$ in., has been measured with an accuracy of one-thousandth of a millimetre or the one-twenty-five-thousandth part of an inch, the cell is placed in the sector spectrophotometer for its absorption spectrum to be studied. It should be noted that the serum is not treated in any way; it is not even diluted. Such procedure would be practically, if not quite, impossible by the older method of Hartley, where the spectra were graded by varying the thickness of the layer. The quantity of blood required would be inconveniently large for the patient, and the necessary handling of the cell would not be agreeable to the operator when pathological sera were in hand; further, the details of the results would not be sufficiently precise to be of any value for, say, clinical diagnosis. It is thus seen that an entirely new field of medical research has been opened by the new instrument.

The absorption spectrum shown in fig. 5 is that of blood serum. It is usual to exhibit the results in the form of an "absorption curve," with wave-lengths for ordinates and extinction coefficients for abscissæ, as shown in fig. 6. This curve is reproduced from the Proceedings

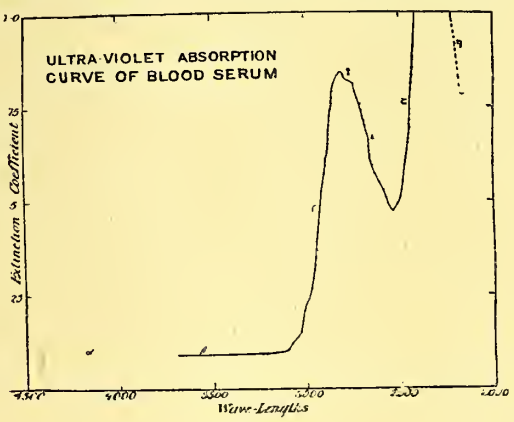


FIG. 6.

of the Royal Society (B, 89, 1916, 327-335), where its characters have been fully discussed. The large central band is due almost entirely to the proteins in serum, more especially the globulins. The irregularities in its form are constantly found with all specimens of serum, and therefore the curve cannot be drawn smooth. The non-proteins give very little absorption, and therefore do not appreciably modify the form of the absorption band due to the proteins. An abstract from that paper will indicate the possible value of the method to the study of disease.

Some thirty specimens of blood have been examined in connection with typhoid, and the results are very encouraging. The chief effect observed is that the point of least absorption value between the section ϵ and ζ is shifted from 2,540 to 2,510, and at the same time raised slightly. This result has been arrived at in two ways: First, a series of three specimens of blood was taken from each of six soldiers: (*a*) normal, immediately before inoculation against typhoid; (*b*) forty-one hours after the first inoculation; (*c*) twenty hours after the second inoculation, eleven days later. The serum was separated and examined in the usual way, and the above-named effect was observed in five out of six cases. Blood from eleven cases of actual or suspected typhoid was examined. In six instances the above effect obtained fully; in two the displacement was to 2,530 only; in two the position was unchanged. In one, described as clinically a typical case of typhoid and as having failed three times to give the Widal reaction, the movement was in the opposite direction to 2,550. In most cases there is a reduction in the amplitude of the curve between the depression at 2,540 and the head at 2,800. Another modification observable in the inoculation cases is that the step-like prominence at the bottom of section γ is somewhat greater after inoculation than before in five cases out of six. The sixth case is also the exception with regard to the displacement modification mentioned above

Two papers on "Ultraspectroscopic Studies in Blood Serum," one by T. Tadokoro and the other by Y. Nakayama, appeared in America in the "Journal of Infectious Diseases" for January 1920. The inquiry was on somewhat similar lines, but, unfortunately, the work was not quantitative, and so it is not strictly comparable with that now described.

Turning to industrial applications, the absorption spectra of films of cellulose derivatives and of rubber were described, in particular the extraordinary transparency of caoutchouc to ultra-violet light was detailed in its application to the technology of rubber, in explaining the preservation of rubber goods by the incorporation of ultra-violet-light-absorbing dyes. The spectroscopic properties of certain glasses next received attention, in particular Chance's "Crookes A" glass, which has become so valuable for spectacle-making, was shown by practical demonstration to be almost opaque to ultra-violet light, although it cuts off those rays which are most irritating and fatiguing to the eye. Clearly this glass is the antithesis of the quartz or "pebble" lens which transmits all the ultra-violet rays. The second glass was Chance's ultra-violet glass, which has the opposite properties. It is dark red in appearance and might be mistaken for a very dark-red glass such as is used in the dark-room. However, its absorption spectrum showed its utter unsuitability for such a purpose, for while it cuts off practically all the visible light it allows ultra-violet light to pass freely. This was demonstrated by placing in the path of the invisible rays various fluorescent substances—for example, uranium glass, sodium salicylate, quinine sulphate, and napthalene balls, some of which fluoresced, due to an impurity, and others which did not do so. The skin of the hands and the nails are also feebly fluorescent, and a very beautiful blue fluorescence was displayed by an alcoholic solution of the rare substance, tetramethyldiamidoxanthone. The absorption spectra of the glasses are shown in fig. 7.

The applicability of absorption spectra to the study of the molecular constitution of organic substances was briefly referred to, but the chief reference was to the aid which this method could afford, by means of the new sector spectrophotometers, in studying the state of chemical equilibrium in a solution, or the progress of a chemical process. Another instance was the determination of small quantities of nitrogen peroxide in the gases evolved during the decomposition of gun-cotton and other explosives, by means of the intensity of the absorption spectrum. The mixture of gases is contained in a tube, 400 mm. long, the light is passed through the tube and examined by the spectroscope. By comparison with standard photographs of the absorption spectrum more accurate and trustworthy results are attainable than by any other method.

The last example was the application of the spectroscope to the study of the fluorescent properties of cellulose. It has not been generally known that paper is sometimes comparatively strongly fluorescent, although not sufficiently so to be observable in the ordinary way. The fluorescent

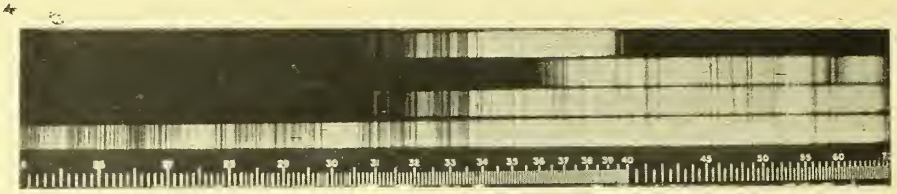


Fig. 7.—Absorption Spectra of Glasses. 70 is at the red end, 40 is at the violet, and all beyond is ultra-violet. The spectra indicate the amount of light passing (1) through Chance's ultra-violet glass, showing no visible light; (2) through Chance's "Crookes A" glass, showing very little in the ultra-violet; (3) through spectacle crown glass; (4) through quartz, which transmits all the ultra-violet.

power varies with the kind of paper and with its chemical condition. If a piece of paper be divided into four parts, one part to be used as it is, a second parchmentised, a third acetylated, so as to form a layer of cellulose acetate on the surface of the paper, and the fourth nitrated so as to produce cellulose nitrate, and the four are then examined in the spectrograph, it will be found that the parchmentised paper is more strongly fluorescent than the original paper, and the acetylated paper still more strongly fluorescent; on the other hand, the nitrated paper will be devoid of all fluorescent power. The method of observation is interesting. The specimen is attached to the glass side of a photographic plate, which is then placed in the camera of the spectrograph, with the paper towards the light source, when it follows that the ultra-violet rays fall on the paper, which they appear to penetrate, and then pass through the glass before they reach the sensitive film. A blurred but strong photograph of the spectrum is thus obtained. Fig 8 shows those obtained by

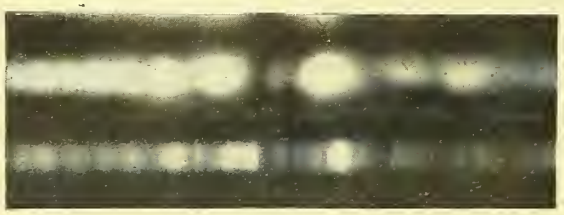


Fig 8.

(1) a filter-paper (the weaker), (2) a cellulose acetate paper (the stronger). If, however, no paper is used, or if a delicate wire gauze or other inactive medium takes the place of the paper, no photograph whatever is produced, because the ultra-violet rays are cut off by the glass, and so they cannot reach the sensitive film on the other side of the glass. It follows that the paper, although *not* transparent to the rays, possesses the power of *converting* invisible ultra-violet rays into rays which are of sufficiently long wave-length to pass through the glass—that is, to convert them into visible light. Hence, the paper is fluorescent. A full account of this appears in the "Journal of the Society of Dyers and Colourists," August 1918.

The lectures were brought to a close by brief reference to the marvellous attainments achieved by spectroscopy in helping to elucidate the structure of an atom, the architecture of a crystal, and the evolution of a star. The spectroscope has become one of the most useful aids in the study of astronomy, medicine, and chemistry, and is applicable to almost every branch of industry.

A Swedish Central Laboratory.—Since the abandonment, some few months ago, of the scheme for the establishment of a factory for pharmaceutical preparations, under the auspices of the Wine and Spirit Central Co., some prominent pharmacists have been endeavouring to form a company to undertake the scheme. The intention is still to use the installations in the Sodertalje for the central laboratory. These are owned by the Wine and Spirit Central Co., but it is believed that the company is agreeable to dispose of the property. A committee of pharmacists is now investigating the installations.

New Essential Oils.

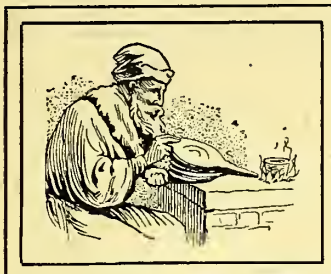
Oil of Tagetes Anisata.—The "Amer. Perf. Journ. and Ess. Oil Rec.," Vol. I., No. 8, reports that the *Tagetes anisata*, N.O. Compositæ, is commonly found in the Argentine Republic, in prairie zones of 1,000 to 3,000 metres altitude. Distilled in the fresh state, in a current of steam, it yields 0.7 to 0.8 per cent. of a green essential oil, resembling but not identical with anise oil. M. F. Zelada has found it to have the following characteristics: Specific gravity at 15°, 0.9862; b.p. 214° to 218°; total alcohols, 4.311 per cent.; ester value (after acetylation), 23.4; refractive index, 1.5432; optical rotation, 1° 10′; solubility in 90 per cent. alcohol, 1 in 5.

Essential Oil of Vitex Trifolia.— Shinosaki ("Journ. Chem. Ind.," Japan, 1921, 24, 191) has obtained from 0.11 to 0.28 per cent. of essential oil from the leaves and twigs of *Vitex trifolia*, grown in the Ogasawara Islands and in the Kanagawa Prefecture. The oil, which is of characteristic odour, has a brown colour, and possesses the following composition: Terpenes (pinene and camphene), 55 per cent.; terpinyl acetate, 10 per cent.; a diterpene alcohol, $C_{20}H_{32}O$ or $C_{20}H_{34}O$, 20 per cent.; other bodies, 15 per cent. The diterpene alcohol boils at 165°-167° at 4 mm., and has s.g. 0.976 at 15°, refractive index 1.5143 at 20°, and specific rotation +46° 39′.

True Oil of Gaultheria.—A report by George M. Beringer ("Amer. Perf. Journ. and Ess. Oil Recorder," vol. i., No. 6) states that a quantity of *Gaultheria procumbens*, L., was collected near Hammondton, N.J., in the fresh condition. From 4,070 grams of the plant 23.63 grams of oil, equivalent to a yield of 0.586 per cent., was obtained. The entire plant was used for the experiment. About the same time Professor Henry Kraemer had distilled in his laboratory at the Philadelphia College of Pharmacy a quantity of gaultheria, using the leaves only, which were separated from the freshly collected plants, and so the author was able to secure two authentic samples of oil of gaultheria to exhibit. While the U.S.P. describes oil of gaultheria as "distilled from the leaves," it is doubtful if in actual practice this direction has ever been strictly followed, as the custom is to gather all the above-ground portions of such small procumbent plants and not to expend the labour necessary to strip leaves only. These two samples of oil exhibit some distinct differences. The sample from Kraemer's distillation is almost water-white and has remained so for a year. It has a much lighter, more ethereal odour, while that from the author's experiment has gradually darkened and assumed a pale amber tint and has a much heavier odour; both colour and odour more closely resembling those of the distilled oil commonly appearing in commerce. The specific gravity and optical rotation of these oils is as follows:

	Sp. gr.	Optical rotation
Kraemer's	1·1785	−0·26
Beringer's	1·177	−1·335

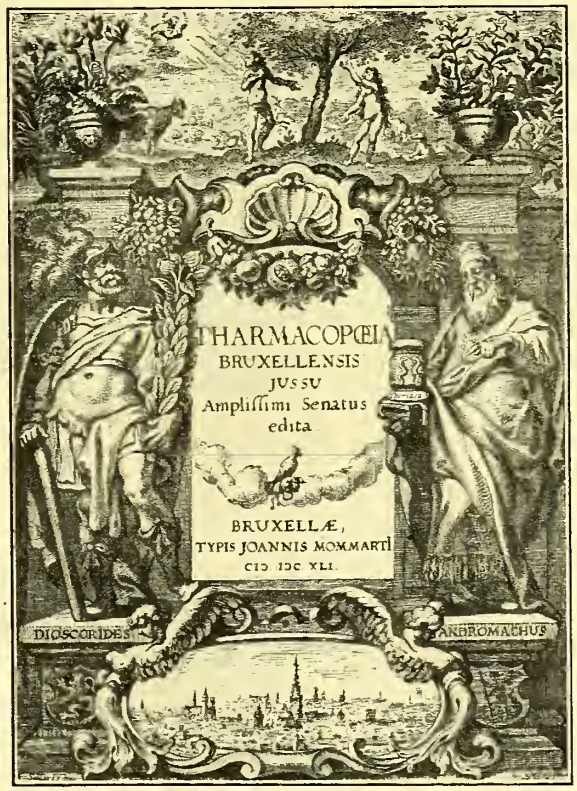
While there is scarcely any difference in the specific gravity of the samples there is marked difference in the lævo-rotary power. In this connection the United States Pharmacopœia states that oil of gaultheria is lævo-gyrate up to −1° in a 100 mm. tube, at 25° C. If the oil from the entire plant is to be officially recognised, then the writer's experiment demonstrates that this limitation must be somewhat extended.



A Belgian Souvenir.



DR. FERDINAND DE MYTTENAERE, Government Inspector of Pharmacies in Belgium, was recently nominated as Chevalier of the Order of Leopold by King Albert. The occasion was taken by the Belgian pharmacists to present the Inspector with an address of congratulation and expression of the regard in which he is held by his colleagues in the pharmaceutical profession. The address took the form of a souvenir book of forty-four pages, each 12¾ in. × 9½ in., printed in black and red, with gold borders and ornaments. The souvenir was designed by Mr. Oscar Van Schoor, the well-known editor-pharmacist of Antwerp, who did so much patriotic work for his country during the war. A feature of the work is that the left-hand side pages consist of full-size copper-plate reproductions of the title-pages of all the Belgian Pharmacopœias down to 1823. These are as follows: (1) The first Antwerp Pharmacopœia, dated 1560, edited by Johan Brettschneider, who, destined for pharmacy, became a Dantzig doctor and a professor at the Königsberg University; (2) Dispensatory of Valerius Cordus, of which the first edition was printed at the Plantin Press at Antwerp in 1568. The comments were by Pierre Condebergh, an Antwerp pharmacist; (3) Brussels Pharmacopœia, 1641, brought out by the College of Physicians. A reproduction of this title-page, engraved by C. Galle, is given here; (4) Ghent Antidotaire, 1652; (5) Antwerp Pharmacopœia, 1661, the design for the page being the work of Abraham Van Diepenbeeck; (6) Ghent Antidotaire, 1663, with title-page by the same artist; (7) Brussels Pharmacopœia, 1671, the design being somewhat similar to the one we reproduce, except that the upper part shows the interior of a pharmacy; (8) Brussels Pharmacopœia, 1697; (9) same, 1702, with a design showing operations in pharmacy being conducted, including the spreading of a plaster; (10) same, 1704; (11) Liége Pharmacopœia, 1741; (12) Dispensatorium Pharmaceuticum; (13) Mons Codex Medicamentarius, 1755; (14) Ghent Pharmacopœia, 1756; (15) Brussels Pharmacopœia, 1759; (16) Dispensatorium Pharmaceuticum, 1774; (17) Ghent Pharmacopœia, 1786; (18) same, 1787; (19) Pharmacopœia Manualis, 1812; (20) Pharmacopœia Belgica, 1823.



The congratulatory address, which occupies the right-hand pages, is (translated) as follows:

You see to-day around you pharmacists who have come from all parts of Belgium to offer to you their tribute of affectionate esteem and of appreciation. They have come in order to emphasise by their presence and their welcome the high distinction which has been conferred upon you by the Government, in recognition of the inestimable services you have rendered to Belgian pharmacy.

The scientific activity which you have displayed throughout your career, and which has found expression in contributions on scientific pharmacy, and in your communications to the Royal Academy of Belgium, your collaboration as one of the authors of the Belgian Pharmacopœia, the zeal which you exhibit in the execution of your functions, your constant endeavours to render pharmacy a scientific profession worthy of this designation, are indeed qualifications which justly deserve the high distinction which the Belgian Government has conferred upon you. But the qualification which stands foremost as a claim upon Belgian pharmacists for their gratitude and affectionate esteem is the fact that you are yourself a pharmacist and the son of a pharmacist. Brought up in the professional atmosphere, you are in a position to gauge the possibilities offered by our profession and take into consideration its demands. While inspiring pharmacists with love for their profession, and while compelling them to observe scrupulously the legal provisions regulating the exercise of our art, you have understood that in the application of these provisions it is the letter that kills, and that the spirit gives life. Everywhere and always you have succeeded, thanks to your tact and to your innate dignity, in achieving the due observance of the numerous regulations which have by law been imposed on the exercise of the pharmaceutical profession in the interests and for the benefit of public health, which for all of us should be the supreme law.

Mindful of the fact that the Pharmaceutical Society of Antwerp is the oldest professional body of our country, our Board deemed it incumbent upon the latter to assume the initiative in bringing about to-day's manifestation. The response was numerous and enthusiastic. The names of the hundreds of subscribers appended to this address show that Belgian pharmacists have grasped the extent of the great services which you have rendered to the profession and to the pharmaceutical organisation. By their participation they desired to give it expression by a brilliant demonstration.

There follow the names and addresses of the subscribers—ten associations and 444 individual pharmacists. The whole forms a beautiful work of art, printed at the Buschmann Press, Antwerp, from Caslon (London) type, on Japanese paper.



A Day at "Bell's."





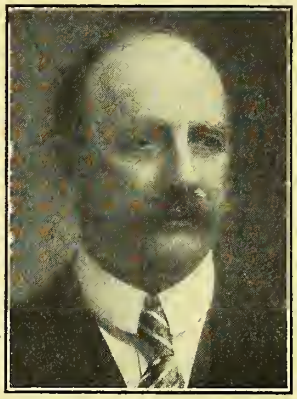
CHEMISTS who from time to time, during the past half-century, have had occasion to lament that something in pharmacy was being done amiss have raised their eyes and piously ejaculated, "Shades of John Bell!" — or, as a variant, "Shades of Jacob Bell!" This, it is hardly necessary to point out, was an implicit recognition that John Bell, his brilliant son and the pharmacy with which both were associated were individually and collectively accepted as a standard in things pharmaceutical. The historic firm has broadened down from precedent to precedent, and has now become a business of many departments and of wholesale scope; but the high standard of its founder has never been varied in any evolution of policy, and a visitor who has the privilege of being taken (as a *C. & D.* representative was recently taken) behind the scenes will learn something of the workings of a pharmacy *hors concours*—and a good deal besides.

In the Past.

The story of John Bell's opening day at 338 (afterwards 225) Oxford Street, and of his discouragement on account of a loss in giving change, was fully told in the illustrated article that appeared in The Chemist and Druggist in connection with the centenary of "Bell's" (*C. & D.*, II., 1898, p. 160); and the dispensing department of the firm was described in detail a little later (*C. & D.*, I., 1901, p. 147). Those who do not know their London of the past may be reminded, however, that prior to about the year 1820 neither Regent Street nor Oxford Circus existed, communication with Piccadilly being by way of Swallow Street, a section of which still survives. The southern end of Great Portland Street, which joined Oxford Street opposite John Bell's shop, was known as John Street, and the little court next door but one to the shop (now aptly called Hills Place) was designated Queen Street and consisted of fourteen houses —nine on one side and five on the other. A map of the period shows No. 338 Oxford Street as possessing a narrow garden, which ran as far back as the end of No. 7 Queen Street. In 1819 John Bell took into partnership Thomas Zachary and John H. Walduck; their association continued till 1836, when the two junior partners retired, Jacob Bell and his younger brother, Frederick John Bell, taking their places. The founder of the business died in 1849; Jacob Bell then became the sole proprietor, his brother's connection with the business having ceased two years previously. In 1852 Thomas Hyde Hills joined Jacob Bell as a partner. Seven years later Jacob Bell died at the early age of forty-nine, bringing to a close sixty years of the firm's history. The second sixty years seems, in retrospect, a span easily bridged, owing to the long connection of T. H. Hills's nephew, Mr. Walter Hills, Ph.C., now living in retirement, with the pharmacy. In 1908 (Mr. J. R. Wretts, Ph.C., Mr. E. W. Lucas, Ph.C., and Mr. J. Stuart Hills, Ph.C., having meanwhile acquired interests) the wholesale and retail sides of the business were separated. Joined by Mr. John D. Marshall as the managing director of a limited company, Messrs. Walter Hills, Lucas, and Wretts removed to Wigmore Street, acquiring the business founded by the late Mr. Charles Croyden (an old "Bell's" assistant) many years before, and then owned by Mr. Marshall. From the first the new pharmacy, with its oak fittings, Jacobean furniture, carpets, and old china, was recognised on all hands as a triumph of fine taste; and this impression was deepened when the Lord Mayor of London opened the enlarged pharmacy in 1912 (*C. & D.*, II., 1912, p. 693). As our readers are aware, a new company has just been formed with extended aims.

Additions at Wigmore Street.

As a result of a telephonic conversation with Mr. John D. Marshall on present-day developments, one of



Mr. John D. Marshall, Joint Managing Director.



Mr. C. A. P. Langham, Joint Managing Director.

the directors' cars was put at the disposal of a member of the *C. & D.* editorial staff; and he, under the genial guidance of Mr. C. A. P. Langham, the joint managing director, was enabled to gain impressions of the company's many activities within a few hours. Looking



A Section of the Pharmacy.

round the spacious establishment in Wigmore Street, and mentally comparing it with a print of Hunt's picture of the Oxford Street laboratory in the fifties hanging near the desk of Mr. Wretts, one was inclined to think that, for a generation at least, finality had been reached in the adaptation of pharmaceutical means to ends. On the ground floor is the pharmacy proper, with its twenty

qualified counter assistants and dispensers and its experienced checkers on whose shoulders rests the responsibility of examining every item dispensed. One also notices a new member of the *personnel*, the costings assistant. Adjacent to the pharmacy is the surgical-dressings department; as everyone knows, John Bell & Croyden, Ltd., are pioneers and experts in sterilisation. The arrangements of this floor are completed by the managing directors' and manager's offices, the secretary's office, and the board-room. The lower floor, now in a transition-stage, consisted originally of store, counting-house, operation-equipment, manufacturing and despatch departments. The manufacturing is now to be carried out at Perivale, and the extensive accommodation there will also be used for storage purposes. A considerable section of the lower floor at Wigmore Street is to be converted into a "baby room"—a department in which everything pertaining to babies from the pharmacist's standpoint will be on sale. It will be furnished in the Adam style.

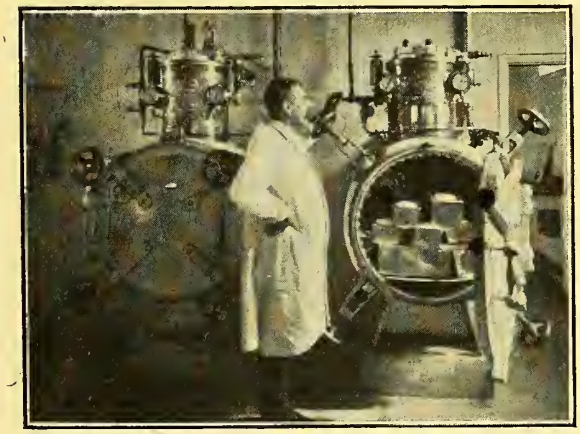
THE KENSAL ROAD WORKS

The many processes carried on at Messrs. Bell & Croyden's Kensal Road works may be summed up under



GLASS-BLOWING.

three heads—glass-blowing, sterilising, and laundering. Watching the glass-blowers at work, one realises afresh how many separate operations go to the making of even a simple Y-tube. The process of making and filling ampoules has more than once been described in THE



STERILISING SURGICAL DRESSINGS.

CHEMIST AND DRUGGIST, and it is only necessary to record that at Kensal Road it is deftly done by workers obviously highly trained; tribute should, however, be paid to the expeditious method of filling (by the most modern vacuum process), and to the economy effected by the electrically-heated "cracking-off" machine. Hand-made vials, one learns, are in steady demand, and many side-lines—e.g., sets of fancy glassware—find a market. All the catgut used in ligatures is prepared in a room on the premises. No department of the works, perhaps, is quite so interesting as that in which the sterilising is done. With the aid of sewing-machines, bandage-winders, and other apparatus driven electrically, the raw materials are transmuted under rigorous control; and when the articles are ready for sterilising they are placed in one of the high-pressure autoclaves, in which a temperature of at least 260° F. is maintained. The further side of each autoclave opens into the sterilising department, in which, like bees in a model hive, workers can be seen deftly soldering up the tins of dressings. The contents of each tin are checked four times, so that there may be no possibility of any outfit containing either more or less than what is ordered by the surgeon. The number of such outfits prepared to private specifications and kept ready for use is surprising. When the packers enter the room it is sealed up; air is then passed in through an impregnated filter and is withdrawn on the further side in exactly the same quantity, uniform pressure being thus maintained indefinitely, as in the operating-theatre of a hospital. By an ingenious arrangement all the distilled water used in dis-



IN THE ANALYTICAL DEPARTMENT.

pensing at Wigmore Street is collected in this sterilised atmosphere. The Kensal Road premises also include an analytical laboratory and a fully equipped power laundry. The laundry, it may be noted, was occupied exclusively, on the day of our visit, in washing articles used in nursing and in operating.

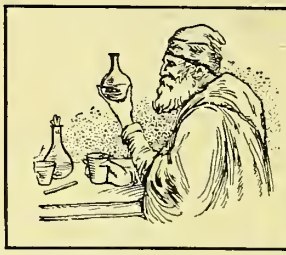
THE PERIVALE FACTORY

The run out to the Perivale factory—officially comprised within the "W. 13" postal district of London, but really about seven miles from Charing Cross—incidentally showed where, in one direction at least, the suburbs give place to the country. Built near the spot where William the Conqueror is believed to have crossed the Brent—*præsit omen!*—it stands in ideally pleasant surroundings, with a golf course and bird sanctuary as background, and lilac hedges and rose trees in prospect within the estate itself. If the atmosphere in which work is done counts for anything, the products turned out at Perivale are certain to be of the best. It may be taken for granted that Messrs. Bell & Croyden would, in any case, see to that: it may be added, however, that on entering the factory one was struck by the fact that the newest mixing, milling, grinding, bottle-filling, and tube-filling machinery has been installed. Racks of perfumes and toilet-preparations greeted the eye, and the lighting and other arrangements left nothing to be desired.

In conversation with the directors of John Bell & Croyden, Ltd., one never observes any tendency to rest satisfied with the prestige that belongs of right to this world-famous house. But there is, on the other hand, a quiet confidence in the outcome of the developments—which are natural and by no means of the "side-line" order—that have been planned for the near future. In this union of ripe experience with a constantly widening outlook lies the presage of prosperity.

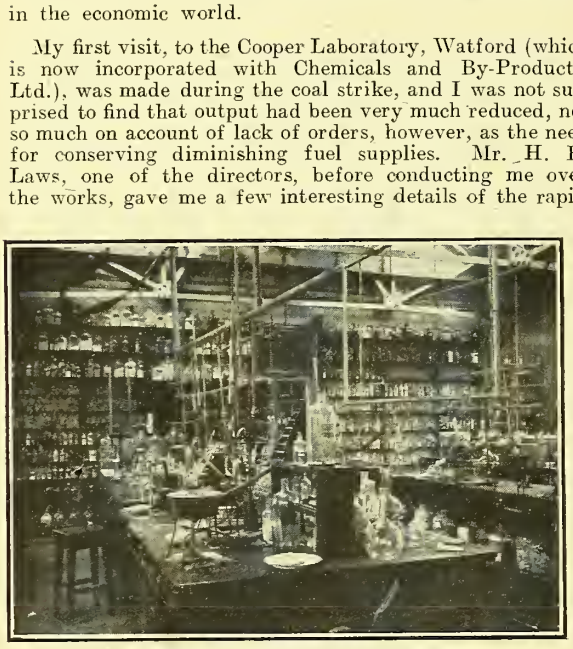


Our Town Traveller.



It is a coincidence that the businesses described in the following pages are either newly established or have been moved into new premises, but I think it is symptomatic of the development in the manufacturing side of the drug-trade that is taking place. Reconstruction is proceeding all the time, notwithstanding the fact that set-backs of a serious nature are occasioned by long-continued unrest in the economic world.

My first visit, to the Cooper Laboratory, Watford (which is now incorporated with Chemicals and By-Products, Ltd.), was made during the coal strike, and I was not surprised to find that output had been very much reduced, not so much on account of lack of orders, however, as the need for conserving diminishing fuel supplies. Mr. H. E. Laws, one of the directors, before conducting me over the works, gave me a few interesting details of the rapid



Section of General Laboratory.

progress made by this comparatively young concern. For, although the nucleus of the present business was in existence before the war, as the research laboratory of Wm. Cooper & Nephews, whose sheep-dip and allied products are known throughout the world, it was only in 1915 that the manufacture of fine chemicals was commenced by the Cooper Laboratory. A limited liability company—Chemicals and By-Products, Ltd.—was formed in 1918. Two of the present directors were in Africa when war broke out, and their first essay as fine-chemical manufacturers on arriving in England was the preparation of beta-eucaine. Their relations with the Government Department concerned were, however, not of the happiest, and a considerable sum of money was lost. Nothing daunted, the manufacture of saccharin was commenced, and continued uneventfully until toluene was rationed and the Ministry of Food commandeered the subsequent output. When potassium permanganate, an essential product for oxidation in the advanced stage of the process, was unobtainable, this was made, and indeed the policy of the laboratory was not to sit down and wait for supplies of any of the essentials, but to make them. Even hydrochloric acid was obtained on the spot, to which the "scrubbers" and tower to be seen at the works bear silent witness. The manufacture of saccharin is, however, now history, as it is no longer profitable for reasons which need not be described, but the magnitude of the output of the Cooper Laboratories may be gauged from the fact that in 1918 over 60,000*l.* was paid to the Customs and Excise department in duty. The laboratory is a well-equipped and spacious section, which is presided over by Mr. G. D. Lander, D.Sc. It is here that the complex biochemical preparations are made, including the synthetic sugars, certain of which are essential in growing cultures of bacilli. "Buffer" solutions of indicators for brewers, who are enabled to tell at a glance the condition of their "wort," were also shown to me as evidence of the gradual elimination of rule-of-thumb methods from even the oldest English industries. The employment of indicator dyes in medical, biological, and industrial processes has given the company an excellent field for the application of their scientific skill. The company, it may be noted, were the first British makers of phenol red and allied indicators. The needs of research workers have, in many cases, been anticipated, but any special preparation can be made, and it would seem an excellent plan, when in doubt as to where a complex organic preparation can be obtained, to get in touch with the Cooper Laboratory. The pharmaceutical department seemed the busiest section at the time of my visit. As I entered, two rows of tablet machines were turning out staple lines such as are known to every pharmacist. Every size of tablet is made, from the tiny hypodermic product to one measuring over an inch in diameter and intended for the bath. While here I saw an attractive line of bath-salts, like "Joseph's coat," of many colours. Labels are printed on the premises, so that orders can be filled with a minimum of delay. The extraction of quinine from the bark is undertaken on occasions, and I saw some fine sulphate which had been prepared in this way for a special order. The hydrochloride is a triumph of the flocculence dear to the pharmacist's heart, for one ounce actually occupies 221 c.c. Euquinine, or quinine ethyl carbonate, aristochin (the carbonic ester), and quinine valerianate are other very fine specimens of British manufacture made by this company, who are justly proud of the fact that they are making every quinine salt. Specimens of aceto-acetic ester and phenyl hydrazine made on the spot were also shown me, and as these constitute the most important raw materials for

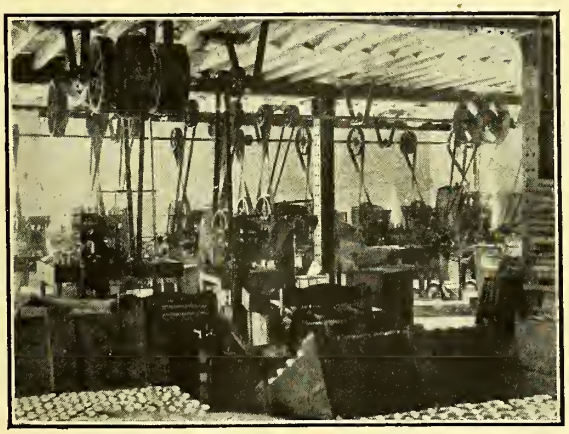


The Analytical and Control Laboratories.

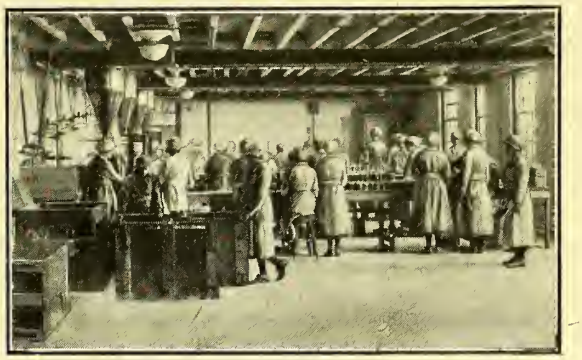
the preparation of phenazone this seemed an easy step. Mr. Laws informed me that they had made phenazone, and he considered that the process followed by his company was superior to the German mode of preparation. He based his statement on the information received from the Commission which had visited the German factories, and issued reports to the interested British manufacturers. It is, however, a melancholy fact that no British-made phenazone can compete to-day with the German-made article. In answer to my question, Mr. Laws was not at all enthusiastic over the proposed safeguarding of British industries. "Artificially to raise the price in this country will not give us the market, say, in South America," he said. He pointed out that it is not sufficient to have superior processes. Cheaper labour is no solution. The real method, in his opinion, is the elimination of jealousies among manufacturers, the institution of team work, and a realisation of the important fact that the by-product of one manufacture is the raw material of another. Reverting again to aceto-acetic-ester, he emphasised the fact that the company can sell this product cheaper than it was quoted in a pre-war German list. The only inference that can be drawn from this is that, when used in the manufacture of phenazone, the raw material is a by-product of another factory. Another feature of German shrewdness, as Mr. Laws said, is the fact that many products were maintained at a high price in the home markets so that prices abroad could be cut. Photographic chemicals, such as para-amido-phenol, are made at the laboratory, but pride of place in this section is given to the new developer "D.50" (*C. & D.*, May 14, p. 46), and described by Mr. J. H. Gear, F.R.P.S., after protracted experiments, as "the most universal developing solution yet placed in the hands of the photographer." The keeping properties of the prepared solution are seen to advantage when contrasted with other popular preparations, and, on this ground of economy alone, it is likely to meet with the approval of a large section of the photographic community. The packing is distinctive and is, in itself, a graduated measure. The future policy of Chemicals and By-Products, Ltd., said my guide, will be largely on the present lines. The needs of the medical and pharmaceutical professions will be catered for, and plans, formulas, and processes are ready for the time when British trade is once more in the ascendant. In this respect Mr. Laws is an optimist, and, no doubt, the knowledge of past achievement is conducive to confidence for the future. It would appear, however, that the British fine-chemical industry has strenuous days in front of it.

THE NEW "LIVER SALT" FACTORY.

Several months ago I learned that Scott & Turner, Ltd., Newcastle-on-Tyne, were planning a factory on a big scale for the production of Andrews Liver Salt under the best possible conditions. The necessity for increased means of output had become evident, and a site was selected in Killingworth Place, Gallowsgate. This business was started about twenty-five years ago, with a staff of less than a dozen. To-day the company employs some hundreds of workers of all grades, and it is worthy of mention that some employees who started twenty-five years ago are still with them. The new factory is now an accomplished fact. The directors have advanced ideas



MAKING LIVER-SALT TINS.

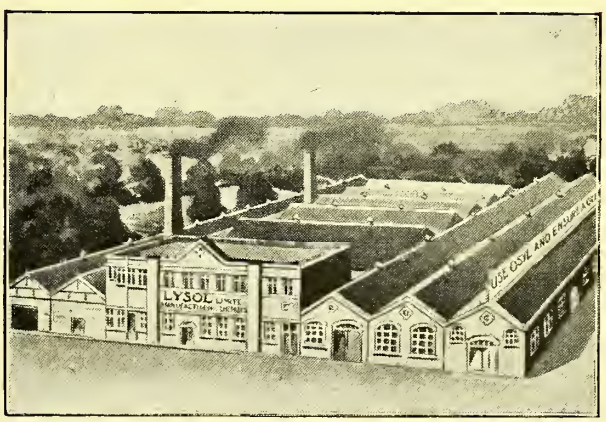


A PACKING-ROOM.

with regard to factory conditions, and everything possible is done to ensure the welfare and happiness of the workers. The tins are manufactured on the second storey, and one of the machines which the writer saw could turn out 144 tins a minute. The tins are conveyed by endless belts to the higher floors, where they are automatically filled (and weighed) from the machine in which "Andrews" is manufactured. To avoid any possibility of error, these tins are again passed over a scale, so that the net weights of 4 oz. and 8 oz. may be guaranteed. The tins are then put on conveyors and carried to a lower floor, where the lids are automatically stamped on and the goods packed. From start to finish "Andrews" is never touched by hand, and the most scrupulous cleanliness is observed in all the processes of manufacture. The lighting, which has been arranged by experts, does away with any possibility of eye-strain. A dining-room and rest-room have been provided, the amenities of which include magazines and a piano. It is hardly necessary to add that the systems adopted in the clerical department are of the most modern type. Scott & Turner, Ltd., are to be congratulated on the completion of so well-proportioned and hygienic a factory.

WHERE LYSOL IS MADE.

On alighting at Raynes Park Station, London, S.W., I had frequently passed the works of Lysol, Ltd., and

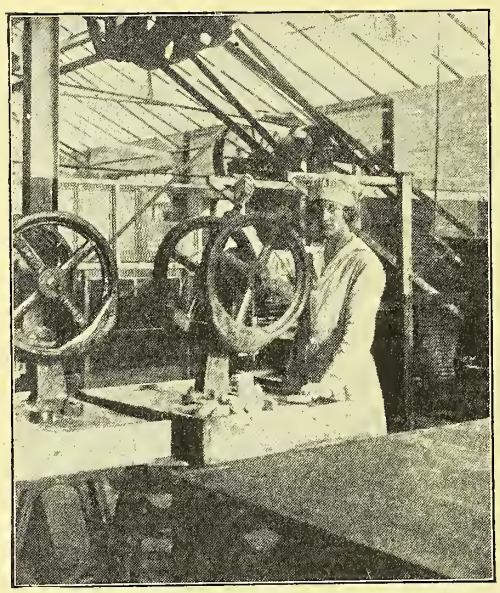


GENERAL VIEW OF THE LYSOL WORKS.

whether it is the hygienic atmosphere emanating from the premises—or the knowledge that the building was an Army signal establishment during the war—my curiosity to see the interior of this model-looking factory made me

readily avail myself of an invitation to visit it. Mr. J. H. Marshall, the managing director, before conducting me over the premises, gave me an account of the company's progress.

The company was originally a private one, formed by the present managing director and Mr. Charles Bell; it was subsequently converted into a public company. A factory was acquired at Stratford, where manufacturing operations commenced. The expansion of the business soon necessitated a larger establishment, and a transfer to the present building took place in August last year



Soap Stamping.

(*C. & D.*, 1920, p. 1142). An opportunity recently offered whereby the original German business could be purchased outright without any retained interest or royalty. At the same time the American interest in lysol (which had been separate from the German for some years) was amalgamated with the present company and a controlling company, Lysol, Incorporated, formed. Lysol, Ltd., now possess three factories (London, New York, and Hamburg), each having its allotted sphere of commercial activity. The London factory supplies Great Britain, the Colonies, Japan, and China; New York caters for North, Central, and South America; while the Hamburg factory deals with practically the whole of Europe.

The works buildings are on one floor; all the walls and ceilings are painted white, and the whole factory is roof-lighted during the day. Both offices and works impress one by their spaciousness. Lysol, the main product, is made in a large steam-heated mixing-pan having an output capacity of 7½ tons per twenty-four hours. All the ingredients are automatically conveyed from measuring tanks to this boiler, and the finished product is pumped into storage tanks. These latter, erected outside the building, aggregate a total storage capacity of over 8,000 gallons. The feed from these tanks to the filling benches is by gravity. Owing to the difficulty of finding a suitable automatic filling machine the bottling operations have, up to the present, been performed by hand. The company is now installing a vacuum filling-apparatus capable of filling over 20,000 bottles in the course of eight hours. This machine will be synchronised with an automatic bottle-washing apparatus, mechanical labelling, and conveyor system. The various soaps manufactured by the company are milled and stamped in an adjoining department, where, at the time of my visit, were being prepared the 500 gross of samples which, together with collecting boxes for the Benevolent Fund were supplied to chemists. Continuing our itinerary, we arrived at the stock-rooms, which are so arranged as to save unnecessary running about. The canteen is a separate building ,and comprises two mess-rooms and a kitchen. Practically all the employees lunch here. They are also allowed tea during the afternoon. Outside, in a large yard, there is over a million bottles stored, and separated from the main building are the case-making shops, garage, etc. Beyond this is spare ground, at present cultivated as allotments by some of the employees.

Returning to the offices, I was shown the company's museum, comprising samples of every known brand of lysol on the market, and advertisements of lysol which have appeared in the lay Press of various countries throughout the world; the contrast between the American and German ones is particularly striking. It is not generally known that Lysol, Ltd., have not, so far, advertised their preparations to the public in Great Britain; a campaign is, however, about to be started.

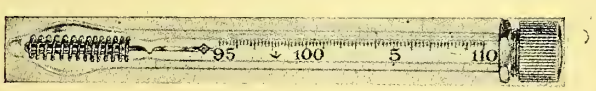
British Clinical Thermometers.

When a firm has imprinted on its notepaper a map of the district showing the situation of the factory, one has a feeling that in the works the same careful attention to detail will be manifested. It was in this frame of mind that I set out to visit the Accoson Works (Vale Road, London, N. 4) of A. C. Cossor & Son, scientific-instrument makers and experimental glass-blowers, where I found my analogy regarding scientific precision was completely established. Mr. Cossor was engaged in the compilation of a price-list when I arrived, but no time was lost in conducting me over one of the best-equipped



Packing and Wrapping Room at the Lysol Works.

factories it has been my good fortune to visit. Probably few pharmacists know that the Accoson Works are the largest thermometer works in the United Kingdom. The buildings stand in an acre of ground, covering half an acre, and, as the firm was established sixty years ago, A. C. Cossor & Son claim to be the oldest people in the trade. Spacious, well-lit (from the roof), and with good ventilation, the initial requirements for a maximum output are fully provided. The aftermath of the war has removed old-established customs in many industries. For sixty years the firm has been making clinical thermometers which reached the trade through distributors, the actual makers remaining in the background. But D.O.R.A. came along and said that every thermometer must bear the stamped approval of the National Physical Laboratory. At the present time, said Mr. Cossor, probably no one could be prosecuted for selling unstamped thermometers, but, he added, a pharmacist would be foolish to take these instruments into stock, because at any time the old D.O.R.A. regulation may be translated to the Statute Book. In any case, the N.P.L. imprint is a guarantee against thermometers which may be worse than useless. The three points in buying a clinical, in Mr. Cossor's opinion, are: (1) Is it stamped "N.P.L."? (2) Is it attractive in appearance? (3) Is it cheap? So far as the Cossor make of clinicals is concerned, it may be stated at once that the answers are, as they say in the House of Commons, in the affirmative. The varieties of clinical thermometers which were produced for my benefit have this point in common—the markings, including the figuring, were aligned and distinctive throughout. Later on I was to see the reason for this. The super-clinical, however, is undoubtedly the Accoson Aseptic Clinical Thermometer, which, Mr. Cossor claims, solves the difficult problem of presenting an aseptic instrument under any condition. This thermometer



illustrated above is likely to meet with a favourable reception from the busy practitioner. It consists of a stout glass tube with a bulb-shaped chamber for an antiseptic solution at its lower end. This disinfecting chamber contains a coiled nickel spring, which pushes the thermometer up from the antiseptic solution when the cap over the orifice is removed. We started our tour of inspection in the metal-turning room, where many lathes were busy on the brass tubes for engine-room thermometers. This branch of the business is an important one. A glance at a stock-room, where stacks of tubing are ready for graduation to any required scale, preceded a visit to the testing-room, where many ingenious devices are in operation, most of them the result of the principal's own ideas, and all calculated to eliminate the possibilities of error and to promote mass production. In the next department I was shown the secret of symmetrical markings and figures on the thermometers. After being coated in a bath of wax, which is maintained, economically, at a constant temperature, the markings are rapidly made at a number of machines which, Mr. Cossor explained, are his own design and were made on the premises. The etching is, of course, done in a fume-chamber. A stage in the process, which obtained for the firm high praise from an influential quarter, is the filling of the thermometers with mercury. Mr. Cossor's method is to fill them mechanically in batches in a fume-cupboard, and thus eliminate danger to the individual, as well as promote rapid production. In the glass-blowing room the staff was engaged in various stages of making thermometers, hydrometers, etc. A glass tube is rotated in the high-pressure gas jet, a deft movement of the fingers, and the operation is over. It all looked so easy! I have already referred to thermometers for engineers, but thermometers for every requirement are made—incubators, refrigerators, dairies, etc. Hydrometers of all kinds are manufactured, as well as glass hypodermic and serum syringes and sphygmomanometers. The firm are also the sole manufacturers of a well-known carbon dioxide recorder which, by indicating the degree of combustion of coal in factories, saves its cost in a very short time. These do not exhaust the activities of the firm, but are indications merely of the ground that A. Cossor & Son cover. Mr. Cossor is just now getting into closer touch with the pharmaceutical side of the business. Orders of a dozen clinical thermometers and upwards will be supplied, each in an attractive carton, as well as the usual metal case, and under certain conditions a handsome cabinet will be obtainable by pharmacists for show purposes. Mr. Cossor considers that he can meet competition from any quarter. In this, no doubt, he is right, and, as I left the works, I felt gratified that the bogey of British traders in general—German competition—had never been so much as mentioned.

Glaxo's New Home.

Owing to the remarkable development of Glaxo business, Joseph Nathan & Co., Ltd., have quite outgrown their premises in Great Portland Street, London, W., and have just entered into possession of a fine new building, specially erected for them in Osnaburgh Street, a minute's walk from Great Portland Street Station, on the Metropolitan Railway. The building, which has been carefully planned and designed by Mr. Walter J. Fryer,



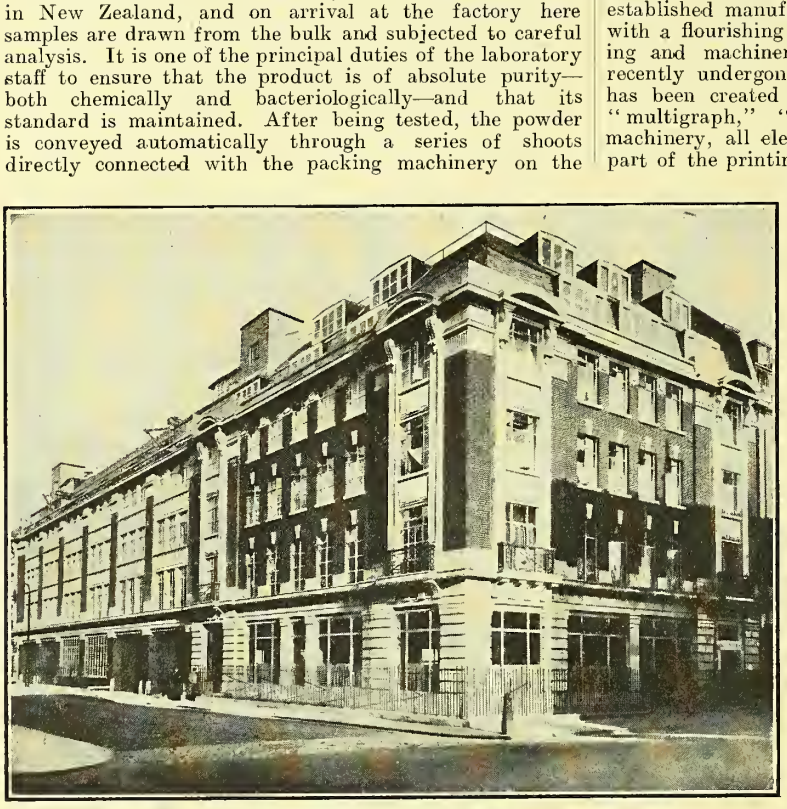
The First Glaxo Poster.

C.B.E., on modern lines, has a frontage of 216 ft. by 58 ft., and consists of five floors and basement. It is evident that a new industrial area is being developed in the Osnaburgh Street neighbourhood, and the Glaxo buildings are among the first to be erected, in accordance with a building scheme to which others will presumably have to conform. The formal opening of Glaxo House will take place shortly, and when the interior arrangements are fully completed and equipped the building will accommodate the packing and despatch of Glaxo, the executive, advertising, clerical, laboratory, nursing, and general staffs. This new organisation was well under way at the time of my visit, when I was able to make a rapid tour of inspection of the actual and proposed arrangements. On entering the vestibule and turning to the left past the inquiry office, the visitor enters a handsome and spacious hall, panelled in dark oak, and furnished with comfortable settees. Around this hall are grouped various departmental offices, including the sales department, under the control of Mr. Hugo Wolff, M.P.S., the medical department, Mothers' Help Bureau, and the editorial office of the "Glaxo Service Bulletin," the house organ.

The main hall also gives access to the board-room, adjoining which there are convenient alcoves for interviewing purposes. The remainder of the ground floor is to be devoted to the delivery and despatch of Glaxo, there being four large gangways giving access to the street.

Ascending by the lift to the top of the building (fifth floor), I was given an outline of the canteen arrangements, to which this floor is to be devoted. Meals are to be provided for a clerical and factory staff of 400 or more, and a dining-room is also set apart for the executive staff and heads of departments. A rest-room is also to be provided, together with first-aid and medical attendance. Descending to the fourth floor, I was shown a series of six rooms to be devoted to chemical and bacteriological research, in which a staff of analytical chemists will be engaged under the direction of Mr. Harry Jephcott, Ph.C., M.Sc., F.I.C. There are, by the way, no fewer than six pharmacists on the staff of the company.

To the few who do not know, Glaxo is manufactured in New Zealand, and on arrival at the factory here samples are drawn from the bulk and subjected to careful analysis. It is one of the principal duties of the laboratory staff to ensure that the product is of absolute purity—both chemically and bacteriologically—and that its standard is maintained. After being tested, the powder is conveyed automatically through a series of shoots directly connected with the packing machinery on the floor below, and it is important to note that, from the first stage of manufacture in New Zealand to the final packing of the tins in London, the product is untouched by hand.



The New Glaxo Premises.

Advertising, it need hardly be said, has played an important part in the astonishing growth of Glaxo, so that no surprise need be expressed that a large proportion of the second floor is devoted to the results of the draughtsman's skill in designing advertisements and posters calculated to catch the public eye. The first poster, "From Earliest Infancy to Old Age," printed in ten colours and depicting the nurse feeding the infant on her lap with Glaxo, together with the old gentleman seated at the table, enjoying the same beverage, is unique. This poster, of which we give a reproduction on the preceding page, is now appearing in over twenty of the principal towns in Great Britain.

Among the offices located on the first floor are those of the General Manager, Secretary, Sales Manager, Export Department, Business Research Department, etc. Here, also, is situated the telephone exchange with ten lines (Museum 8040). Every room in the building is linked up with this exchange, and there is also a dictagraph installation for the heads of departments. The building throughout is heated with radiators, and there is an excellent system of automatic water-sprayers for fire-extinction. It is anticipated that, when complete, the factory will be capable of handling over 1,000 tons of Glaxo a month, and, as instancing the steady growth of Glaxo, I was informed that the pre-war turnover was under 80,000*l.*, whereas that for 1920 exceeded 1,300,000*l.*

A Visit to the "Rodine" Works.

In the course of a visit of a *C. & D.* representative to Mr. Thomas Harley's well-equipped and specially built four-storey factory at Perth, it was recalled how similar industries of no inconsiderable local note have grown out of the pharmacy. Some specialities that readily occur have become national institutions, and have long since lost all trace of their origins in the retail; in the present instance, although quite detached, the very widely established manufacturing business is run in conjunction with a flourishing pharmacy. The modern factory building and machinery were completed in 1914, and have recently undergone extensive alterations. A department has been created devoted to the newest duplicating, "multigraph," "addressograph," and other business machinery, all electrically operated and covering a great part of the printing provided for agents. Cleanliness and order are predominant to an unusual degree, and the working and welfare conditions are ideal.

A regular stock of half-a-million tins and other details on a like scale are an index to the extent of the business in the principal product—"Rodine"—now advertised in 500 newspapers from Kirkwall to Cornwall, and secured largely on the basis of giving agents practically 100 per cent. profit. These chemist agents have been reached chiefly through the medium of The Chemist and Druggist. A highly systematised index of direct results accruing from the *C. & D.* advertisements and "form" letters makes intensely interesting reading. The propaganda of national and local authorities in the war against the rat found Mr. Harley's resources more than equal to the sudden and enormous increase in the demand for "Rodine," but some of the most successful captions used in Mr. Harley's always telling advertising—all written by himself and his manager, Mr. J. Mackintosh—have been culled from testimonies which come in very freely from retail chemists, in themselves a large asset of goodwill.

Harley's "Three Salts" and other specialities occupy other floors of the factory, and are growing up against the day when, the rat war having been more or less won, the accommodation required for the entertainment of the rodents should presumably be less.

Preparation of Di-iodosalicylic Acid. — Cofman ("Gazzetta Chim. Ital.," Vol. L., Part II., No. VI.) gives the following method of preparing di-iodosalicylic acid: 14 grams of salicylic acid is dissolved in 50 c.c. of glacial acetic acid; at the same time a solution is prepared of 18 grams of iodine chloride in 50 c.c. of glacial acetic acid. The two solutions are mixed, and 400 c.c. of water added. The di-iodosalicylic acid separates out from this mixture with a more or less reddish colour, according to the excess of iodine chloride present. The precipitate is collected by filtration and dried for several hours at a temperature of 100°, until every trace of free iodine has disappeared, and it assumes a white colour. It is then crystallised from boiling glacial acetic acid, occurring in colourless and odourless needles. The crystals begin to darken when heated to 220°, and melt under decomposition between 228° and 230°. Investigations undertaken by the author to establish its solubility in water showed that it is soluble 1 : 6000 at 10°, and 1 : 5200 at 25°.



A Revolution in Spanish Pharmacy.



AT last we are able to lift the veil which has shrouded recent events in Spanish pharmacy, and the news we have received records events which are certainly foreign to the calm course which the exercise of the profession is wont to follow in our country. That something unusual was taking place in Spanish pharmacy was apparent from the frequent allusions in the leading professional journal, "El Restaurador Farmaceutico," to enthusiastic protest meetings, to vaguely worded statements referring to certain eminent pharmacists who had been arrested and imprisoned, coupled with the inexplicable explanation that the journal was prevented, "for well-known reasons," from reporting more fully on these events, and referring its readers to the reports in daily newspapers for particulars concerning certain events in Barcelona. In addition, for some time past the front page of the reading-matter of this journal has been taken up by the notice in bold type: "This number has been submitted to censorship."

For some time past Spanish pharmacists have complained of the laxity of the authorities in enforcing certain provisions designed to safeguard the interests of members of the profession, and, following the annual meeting of the national pharmaceutical association of pharmacists held in Toledo last year, a petition demanding the strict enforcement of existing laws was addressed to the Prime Minister (*C. & D.*, April 30, p. 53). At the same time a request was made to the effect that the representative bodies of the profession should be vested with the necessary power to enforce certain by-laws designed to maintain the dignity of the profession. In fact, the Spanish pharmacists desired to possess a form of self-government in purely professional matters.

NINE PHARMACISTS IMPRISONED.

Certain pharmacists of Barcelona having openly disregarded the regulations passed by the College of Pharmacists, the official provincial organisation, a number of pharmacists formed themselves into a syndicate with the object of compelling all adherents to observe the regulations adopted by the majority of the members of the College, especially in view of the fact that the authorities refused to take any steps in this matter, although repeatedly appealed to for legal help. One of the steps taken by the syndicate was to issue a minimum tariff of prices for medicines. Four pharmacists chose to ignore this tariff, and as a result the members of the syndicate refused to handle the specialities manufactured by one of the four recalcitrant brethren. The last-named appealed to the Governor of Barcelona, charging the members of the syndicate with committing the crimes of "coercion" and "illegal assembly" (although the statutes of the association had been presented to the governor two years before). The governor passed on this accusation to the judiciary, and one day last February all the nine members of the board of the syndicate were arrested and kept in the common prison, with ordinary criminals, from 3 P.M. until the following morning, when they were bailed out by Spain's most distinguished pharmacist, Dr. Salvador Andreu (*C. & D.*, April 30, p. 53), who advanced the necessary sum of 90,000 pesetas out of his own pocket. The disgruntled pharmacist followed up his first charge by taking proceedings against the members of the syndicate, claiming an indemnity of 1,000,000 pesetas for the prejudice caused to him by the refusal to handle his specialities.

The news caused intense excitement throughout Spain, and immediately several other professional bodies passed resolutions to the effect that they would also refuse to handle the specialities of this one pharmacist, a decision now endorsed by all the Colleges of Pharmacists and syndicates throughout Spain. The consequence has been that proceedings have now also been taken against the syndicates of San Sebastian and of Pampelona. The National Pharmaceutical Association has taken the matter in hand, and a subscription has been opened throughout Spain to collect the 90,000 pesetas so generously advanced by Dr. Andreu, and also to defray the costs of the forthcoming proceedings against the members of the various syndicates.

REGULATING PROFESSIONAL PHARMACY.

Following upon these events, the National Pharmaceutical Association has presented to the Prime Minister the draft of the statutes of the proposed professional organisation for the self-government of pharmacy in Spain, praying for its official sanction by the Government. It may be mentioned that the proposed organisation closely resembles in its attributes the powers recently conferred by the Government on the medical profession, a point which is emphasised in petition. Briefly, it is proposed to form in every Spanish province a "College of Pharmacists" which every owner will be compelled to join. The aim of each college will be to maintain the dignity of the profession, to improve the pharmaceutical service by elevating the moral and scientific standard of its members, and to safeguard the prestige, rights, and legitimate interests of its members. Further, each college is to assist the Government in enforcing the various provisions of the health laws. The board of each college is to be empowered to inflict certain penalties upon its members—*i.e.*, pharmacists in business who infringe any of the provisions of the laws regulating the exercise of pharmacy, etc., or who commit a breach of the social or professional regulations affecting the dignity of the profession. These penalties are to take the form of a verbal or written admonition; a public admonition; a fine ranging from 125 to 500 pesetas, to be endorsed by the governor of the province, who will have to take whatever legal steps may be necessitated by the offence committed; and in very serious cases expulsion from the provincial college, and the maximum penalty—suspension of the right to exercise the pharmaceutical profession in Spain. The two last penalties can be enforced only for a period not exceeding one year, and must be passed by an absolute majority of the members of the college, and the decision must be confirmed by the Minister of the Interior.

One of the statutes provides that all public advertisements of remedies to appear in non-professional journals are to be first submitted to the college for censorship. In addition, it is proposed to create a pension fund for the widows and orphans of pharmacists, and an old age fund, the moneys for these to be collected by a levy of 1 centimo (½ farthing) on every prescription dispensed, and a charge of 1 per cent. of the cost of each advertisement of medicinal preparations appearing in non-professional journals submitted for censorship.

TYPHOID TREATMENT.—It is suggested that kaolin injections, which are successfully employed in the treatment of Asiatic cholera, would be found beneficial in cases of typhoid fever.

Dangerous Drugs Act, 1920.

Summary of Regulations made May 20, 1921, under Sections 3 and 7, which apply to the United Kingdom and come into force September 1, 1921.

DEFINITION.

Morphine, Cocaine, Ecgonine, and **Diamorphine** (commonly known as heroin) and their respective salts, and medicinal **Opium,** and preparations and substances containing not less than one-fifth per cent. (one part in five hundred) of anhydrous morphine or one-tenth per cent. (one part in a thousand) of cocaine, ecgonine, or diamorphine.

REGULATIONS.

Possession.

Forbidden save to persons :

1. Licensed (or otherwise authorised) to import, export, manufacture, or supply the drugs, or
2. Lawfully keeping open shop for retailing poisons, or
3. Otherwise licensed or authorised (*e.g.*, hospital dispensers), or
4. to a person proving that the drug was supplied, "for his use" by a medical practitioner or veterinary surgeon or on prescription.
5. Medical practitioners, dentists, veterinary surgeons, public analysts, university, etc., laboratories may possess and supply the drugs.

Manufacture.

May be carried out (*a*) in a place specifically licensed, or (*b*) in a shop kept by a chemist, etc., for retailing poisons, etc. :

1. By licensed or otherwise authorised persons, or in the case of preparations or dispensing by
2. Persons [firms or companies] keeping open shop for retailing poisons in accordance with the Pharmacy Acts.

Sale and Distribution.

Supply, procuring, offering to procure, or advertising the drugs for sale is permitted to

1. Persons specially licensed, or
2. those authorised under general licence. Also
3. When dispensed on the prescription of (*a*) medical practitioners, (*b*) dentists, or (*c*) veterinary surgeons, or
4. By a medical practitioner, or
5. When administered under the direct supervision of medical practitioners, or dentists "in dental treatment," or veterinary surgeons "in the treatment of any animal."
6. The container to be plainly marked (*a*) in the case of powders, solutions, or ointments, with the total quantity, or (*b*) in the case of tablets with the amount in each and number in the container.
7. Drugs may only be delivered to (*a*) persons licensed or otherwise authorised, or (*b*) persons producing from licensed or authorised persons written authorisation, which the person supplying the drug is satisfied is genuine.

} These do not apply to dispensed medicine.

Records.

Applicable to drugs or preparations containing the quantities specified in the Act, but not to weaker preparations or to Exempted Preparations.

1. Particulars of other (*a*) supplies or (*b*) sales to be entered in separate registers or parts (in the specified form) for
   - (*a*) Cocaine and ecgonine
   - (*b*) Morphine
   - (*c*) Diamorphine

   } and substances containing them.
   - (*d*) Medicinal opium
   - (*e*) Raw opium (under Section 3)
2. Separate registers must be kept for separate premises, but, with the approval of the Secretary of State, separate registers may be kept for separate departments.
3. In lieu of the "registers" specified above, persons, etc., lawfully keeping open shop for the sale of poisons may make references, under the appropriate dates in a *book* "to be kept for the purpose," to entries in (*a*) the "Poisons Book" or (*b*) the "Prescription Book."

"Registers" will still be needed for *purchases*.

4. Registers and other records (mentioned in preceding paragraph) to be kept on the premises and available for inspection "at all times."
5. Entries in the registers, etc., to be made
   - (*a*) where the business is carried on;
   - (*b*) on the day when the drugs are received or transaction effected, or, "if not reasonably convenient," on the next day.
   - (*c*) Entries not to be cancelled, obliterated, or altered, but errors to be corrected by marginal note or footnote.
6. Particulars must be furnished to persons authorised by the Secretary of State of (*a*) purchases, (*b*) stocks, or (*c*) transactions.

Prescriptions.

1. Must be (*a*) in writing, (*b*) dated, and (*c*) signed by the medical practitioner, dentist, or veterinary surgeon, with his full name and address (*Insurance prescriptions need not give the address*).
2. Must also give (*a*) the name and address of the person for whose use the prescription is given, and (*b*) the total amount of the drug to be supplied.
3. When given by a dentist to be marked "For local dental treatment only."
4. When given by a veterinary surgeon to be marked "For animal treatment only."
5. If an official form is issued that form must be used (*except in the case of Insurance prescriptions*), or in an emergency when the official form is not available, the prescription must be marked "Official Form not available," or with similar words.

Dispensing by Chemists.

1. Prescription must be on official form (if issued).
2. Person dispensing must
   - (*a*) be acquainted with the signature, or
   - (*b*) with the person for whose use the prescription is given, or
   - (*c*) have no reason to suppose that the prescription is not genuine, and
   - (*d*) See that the prescription is written according to conditions given above.
3. The drugs shall be supplied (*a*) once only, or (*b*) if directed, not more than three times "at intervals to be specified" in the prescription.
4. Prescription to be marked with date on which it is dispensed, and
5. Be retained on the premises by the dispenser (*unless it is an Insurance prescription*), and
6. Be available for inspection.

Exempted Preparations.

The Regulations do not apply to

- Cereoli iodoformi et morphinæ, B.P.C.
- Emp. opii, B.P., 1898.
- Lin. opii, B.P.
- ,, opii ammon., B.P.C.
- Pil. hydrarg. c. opio, B.P.C.
- Pil. ipecac. c. scilla, B.P.
- ,, plumbi c. opio, B.P.
- ,, digitalis et opii co., B.P.C.
- Pil. hydrarg. c. cret. et opii, B.P.C.
- Pasta arsenicalis, B.P.C.
- Pulv. cretæ aromat. c. opio, B P.
- Pulv. ipecac. co., B.P. (Dover's powder).
- Pulv. kino co., B.P.
- Suppos. plumbi co., B.P.
- Tablettæ plumbi c. opio, B.P.C.
- Ung. gallæ c. opio, B.P. (gall and opium ointment).
- Ung. gallæ co., B.P.C.

Commentary on the Regulations.

I.

THE Regulations come into force on September 1, 1921, and unless steps are taken to make clear to importers, exporters, manufacturers, chemists, doctors, dentists, and veterinary surgeons the precise effects of the Regulations, friction is likely to occur. The limitations imposed make it necessary for both prescriber and dispenser to know exactly where the boundaries lie. First, the chemist should know what sales of drugs can be effected outside the Regulations, and what alterations, if any, in his own preparations will have to be made in order to conserve the freedom of retail sale. An examination of "Pharmaceutical Formulas," Vol. II., dealing with "known, admitted, and approved remedies," shows that for the most part these formulas are outside the Regulations. A cough balsam, typical of the majority, contains chlorodyne ʒij. in a mixture made up to two pints. The tinct. chlorof. et morphinæ, B.P. 1885, is the one generally prescribed as the original official imitation, and is what medical men intend when a non-proprietary chlorodyne is ordered. This '85 tincture contains $\frac{1}{45}$ gr. in 10 minims of morphine hydrochloride, or 0.209 per cent.; and since the limit is 0.2 per cent. of *anhydrous* morphine, this tincture is outside the Regulations.

The same does not apply to other chlorodynes sold under the name of tr. chloroformi et morphinæ which we have examined. These are often of the strength of 1 per cent. of anhydrous morphine, and come within the Regulations. There is one formula in the "known, admitted, and approved" remedies that contains tinct. opii, 3 oz. in 12 oz., or 1 in 4, and, since the tincture is standardised to 1 per cent. of anhydrous morphine, this particular preparation may only be dispensed on a prescription. The quantity of tincture of opium that may be contained in a preparation that can still be outside the limits of the Dangerous Drugs Act is 95 minims to 1 oz. or 11 minims per drm. This is an important point to bear in mind, as any prescription containing the proportion mentioned will not need to be sent back to the doctor if it does not comply with the Regulations.

Cocain. hydrochlor. and diamorphin. hydrochlor. preparations are not specifically mentioned in the Regulations, and may not be included, but as the pundits of the Home Office would say, "the point can only be settled by a competent judicial authority." Another doubtful point is whether the 0.1 per cent. of "cocaine" and "diamorphine" is to be calculated on the base or not. It is safe, however, to assume that formulas containing not more than 0.4 gr. per oz. and 0.05 gr. per drachm are outside the Regulations. The range of dilution for anhydrous morphine is 0.96 gr. per oz. and 0.12 gr. per drachm. Others are:

	Per oz.	Per dr.
Chlorodyne, B.P.C....	190 ♏.	22 ♏.
Cocain. hydrochlor....	0·4 gr.	0·05 gr.
Diamorphin. hydrochlor.	0·4 gr.	0·05 gr.
Liq. morph. acet.	120 ♏.	15 ♏.
,, ,, hyd.	106 ♏.	13 ♏.
Morphine acetate	1·2 gr.	0·15 gr.
,, alkaloid (cryst.)... ...	1·0 gr.	0·12 gr.
,, hydrochloride	1·15 gr.	0·14 gr.
,, sulphate...	1·12 gr.	0·14 gr.
,, tartrate	1·12 gr.	0·14 gr.
Tr. opii	95 ♏.	11 ♏.
Tr. chlorof. et morph. co.	95 ♏.	11 ♏.

The nearest safe figure in round numbers is given. In the case of tr. opii the best method of dilution for sale in household remedies will need some consideration. The Pharmacopœia tincture precipitates badly when diluted with water, so that the so-called aqueous tincture should be used in order to prevent the unsightly precipitation.

Generally speaking, the various elixirs of heroin are outside the Regulations, the only doubtful one being elixir acetomorph. et terpin. B.P.C., the strength being 0.1 per cent. As this is the hydrochloride, it may just escape the meshes of the law. The various guttæ cocainæ are all well within the Regulations.

A preliminary list of preparations, showing their strengths and whether they are within or without the Regulations, includes:

Within.	Without.
Injectio morph. (2.5 per cent.).	Vin. opii (1 in 10 of opium).
Injectio morph. et atrop. (3½ per cent.).	Emp. opii.
Insuff. morph. (1 in 7).	Emp. plumbi.
Liq. morph. acet. (1 per cent.).	Lin. opii (1-200).
Liq. morph. hyd. (1 per cent.).	Lin. opii ammon.
Liq. opii sed. ("twice strength of tr. opii B.P.").	Linct. opii.
Nepenthe.	Linct. morph. (1 in 625).
Omnopon.	Linct. morph. acet. (1-625).
Opium (9.5 to 10.5 per cent.).	Liq. papaveris (0.05 approx.).
Pil. ipec. c. urginea (1-20 of opium).	Pil. ipec. c. scilla (1-20).
Pil. saponis co. (0.1 in 5).	Pil. plumbi c. opio (1-8).
Pulv. ipecac. co. (1-10 of opium).	Pulv. cret. arom. c. opio (1-400).
Pulv. kino co. (1-20 of opium).	Supp. plumbi co.
Pulv. opii co. (1 in 10 of opium).	Syr. papaveris (0.012 approx.).
Supp. morph. (1-72 anhyd.).	Tr. camph. co. (0.05 per cent.).
Tr. chlorof. et morph. co. (1 per cent.).	Tr. chlor. et morph. '85 (0.19 per cent.).
Ung. opii (1 of extract in 10).	Troch. morph. (approx. 0.003 per loz.).
	Troch. morph. et ipecac. (approx. 0.003 per loz.).
	Troch. opii (one-tenth gr. of extract in 10).
	Ung. gallæ c. opio.

It is interesting to examine the Schedule of Exempted Preparations, and it is difficult to understand on what basis they were selected, or whether similar preparations are covered by the terms used. Lin. opii is exempt, but lin. opii meth. is not mentioned; it may also be held as exempt. Cereoli iodof. et morph. is exempt, but cereoli ac. tan. et opii is not exempt, though it is just on the border-line in its content of anhydrous morphine. Suppos. iodof. et morph. is not exempt. The nebulæ containing cocaine are all included; indeed, no exemptions of cocaine are allowed, no matter how they are "denatured" in an official sense.

The question as to whether pastilles are within the Act depends upon the weight of the pastille. Those weighing 30 gr. and containing $\frac{1}{40}$ gr. cocaine or acetomorphine are safe, but if the pastille contains $\frac{1}{30}$ gr. it comes within the Act. Both serve to show the new study in poisons law of the art of limitations.

Pills and tablets present a difficulty, as it will depend upon the amount of the poison in each, and the size of the pill or tablet varies according to the ingredients. Pil. atrop. et morphinæ containing $\frac{3}{25}$ gr. atropin. sulph. in twelve pills and 2 gr. of morphin. hyd. in the same number would need to be made into a pill the size of a horse-ball to escape the Regulations, and then probably it might be considered as "denatured."

Poppy capsules are said to contain 0.16 to 0.28 per cent. of opium alkaloids, but space or relativity would easily place them beyond the doper's reach, and they can still be sold with an easy conscience.

All these points are being considered in the revised edition of the *C. & D.* "Statutory Restrictions on the Sale of Poisons" which will provide the necessary references for pharmacists.

In the meantime, **manufacturers** of cocaine, morphine, diamorphine, and medicinal opium should apply for licences at the Home Office, Whitehall, London, S.W. **Importers and exporters** of opium will also require licences. **Wholesale druggists** and **dealers** in the drugs mentioned in the Regulations must also obtain licences, and so must **hospital dispensers.** It is expected that the conditions of the licence (for which a charge will be made) will be laid down at the time it is granted. **Chemists' printers** will also need to prepare the numerous "Registers" required by the above persons; also the "book" in which chemists may make the "references" to sales entered in the Poisons Book or to dispensed medicines in the Prescription Book. The registers must be in the form laid down by the Regulations, but there is no form laid down for the "book" of "references."



Wesley's "Primitive Physics."

By A. MORTIMER, F.C.S.



[The preface to the first edition of "Primitive Physick" is dated "June 11, 1747": Wesley was then forty-three years of age. The volume was published at 1s. by Thomas Trye, "near Gray's Inn Gate, Holborn." The twenty-third edition was reached during Wesley's lifetime, and further editions were issued, the last (the thirty-second) appearing in 1828. A bibliographer has ascertained that the book treats of 243 ailments and contains 725 recipes.]

The copy I possess of this work is of the twenty-second edition, published in 1788, the first edition having been issued over forty years earlier (as mentioned above). The value of the "Receipts" is nothing like so great as the sound common sense contained in the general advice in the prefaces to the various editions. That the book was highly thought of is shown by the fact that it ran to so many editions. I have several copies of other books of a similar nature published about the same time, and two or three editions seemed to suffice. It may be that John Wesley on his travels made a good advertising agent for his treatise, or even that members of the Wesleyan Church felt under an obligation to purchase a copy. In any case, the fact remains that in 1755 a postscript to the preface was written at Bristol for a fourth edition. A further one was added in London in 1760, and another in Otley twenty years later.

The history of medicine is briefly traced in the preface. In the early days physic (says Wesley) as well as religion was chiefly traditional. Father handed down to son what he himself had in like manner received, concerning the manner of healing both outward hurts and the diseases incident to each climate, and the medicines which were of the greatest efficiency for the cure of each disorder. Then, when it was seen how the beasts would use certain natural remedies to cure their ills, they were tried for human beings with good results, and experience and physic grew up together. In addition to this knowledge, many accidental discoveries were made which led to the wider use of many hitherto unknown remedies. Hence rules for the application of these, and medical books were immensely multiplied, till at length physic became an abstruse science, quite out of the reach of ordinary men. Physicians, men who knew a little more about medicine than the average person, now were held in esteem, as persons who were something more than human. Profit attended their employ as well as honour; so they had now two weighty reasons for keeping the bulk of mankind at a distance, that they might not pry into the mysteries of the profession. Wesley then goes on to show that the medical men of the time of which he is speaking insisted that a knowledge of anatomy, natural philosophy, and even astronomy and astrology were necessary to the understanding of the art of healing. They introduced complex medicines consisting of so many ingredients that it was impossible to know which wrought the cure. Most of these drugs and chemicals were unknown to the bulk of the people. There were some great and good men who tried to help mankind. These are among the names mentioned: Dr. Sydenham, his pupil Dr. Dover, and the learned Dr. Cheyne. Of the latter Wesley says: "He would doubtless have communicated many more simple remedies to the world but for the melancholy reason he gave one of his friends, that pressed him with some passages in his works, which too much countenanced the modern practice, 'O Sir, we must do something to oblige the faculty, or they will tear us in pieces.'" The general rules laid down for good health are taken from Dr. Cheyne's work. They are sound, commonsensible rules, dealing with the use of food and drink, exercise, times of retiring and rising, and the necessity for deep breathing and cold baths. There is one paragraph dealing with the passions, in which the writer points out that the passions will bring on disease. In the first postscript he mentions that he has omitted antimony, opium, "the bark," steel, and most of the preparations of quicksilver because of the attendant dangers. Many times does he advise all who suffer from any but simple diseases to apply, without delay, to a physician who fears God. I will quote some of the prescriptions, containing uncommon ingredients, but it is remarkable how few really foolish prescriptions have got into the book. In several books of the same period in my possession there are far more in proportion containing worms, snails, cobwebs, excrement, and similar ingredients in their composition.

PRIMITIVE PHYSIC:

OR,

An EASY and NATURAL METHOD

OF

CURING

MOST

DISEASES.

By JOHN WESLEY, M. A.

Homo sum; humani nihil a me alienum puto.

THE TWENTY-SECOND EDITION.

LONDON:

Printed and sold at the New Chapel, City-Road; and at the Rev. Mr. Wesley's Preaching-Houses in Town and Country. 1788.

For an Ague.—Apply to the stomach a large onion slit. Or make six middling pills of cobwebs. Take one a little before the cold fit; two a little before the next fit; the other three, if need be, a little before the third fit.

For a Tertian Ague [an ague that returns every other day.]—Apply to each wrist a plaister of treacle and soot.—Tried.

The Asthma.—Take an ounce of quicksilver every morning and a spoonful of aqua sulphurata, or 15 drops of Elixir of Vitriol in a large glass of spring water at five in the evening. This has cured an inveterate asthma.

And so it should. The formula for elixir of vitriol is given, and it is very similar to that of our acid. sulph. aromat.—far simpler than the old elixir of vitriol of Mynsicht. Of cancer cures there is no end. This book has its share, and one of them seems to have been particularly successful:

Use the cold bath (this has cured many). This cured Mrs. Bates, of Leicestershire, of a cancer in her breast, a consumption, a sciatica, and rheumatism, which she had had nearly twenty years. She bathed daily for a month and drank only water.

Wild parsnips, both leaves and stalks, bruised seem to have been a favourite application. A very popular internal remedy for cancer, asthma, consumption, and similar diseases is a quart of tar water daily.

If John Wesley's advice regarding children had been observed in his day the last generation would have been better for it. For instance: "No roller should ever be put round their bodies, nor any stays used. Instead of them, when they are put into short petticoats, put a waistcoat under their frocks. Let them go bare-footed and bare-headed till they are three or four years old at least. 'Tis best to wean a child when eleven months old. It should lie in the cradle at least a year. No child should touch any spirituous or fermented liquors nor animal food before two years old."

His tried whooping-cough or chin-cough remedy is one that has had a very large vogue, and in some parts of the industrial North it is still much called for:

Dissolve a scruple of salts of tartar in a quarter of a pint of clear water; add to it 10 grains of cochineal, and sweeten it with loaf sugar.

Full directions for taking are given and a suggestion that boiled apples in warm milk should be the chief food. For "an hysteric cholic" cold baths are recommended; and the case of Mrs. Watts is mentioned, who by using the cold bath two-and-twenty times in the month was cured of hysteric cholic, fits, and convulsive motions, continual sweating and vomiting, wandering pains in her limbs and head, and total loss of appetite.

Dr. Tissot and Dr. Boerhaave are often quoted, as well as Dr. Dover and the others mentioned earlier. Their remedies are usually quite simple. For green sickness, one of them suggests grinding together steel filings and red sugar candy. For that sickness, by far the most drastic remedy is to take 1 oz. of quicksilver every morning; there is no suggestion, however, of a saline aperient to follow.

That terrible complaint "the hiccup" might be cured by the following method: "Infuse a scruple of musk in a quart of mountain wine and take a small glass every morning." If only musk was not costing about 14*l.* per oz. this little formula might be worth an experiment. For "the iliac passion," he adds the name of the author, Dr. Sydenham, to the quaintest of the remedies suggested, "Hold a live puppy constantly on the belly."

Towards the end of the book formulas for Daffy's Elixir and Turlington's balsam are given. Then a couple of pages are devoted to the ailments that can be cured by means of cold bathing and drinking water. Undoubtedly these are two remedies that we do not value sufficiently even to this day. The last paragraphs dealing with the uses of "fasting spittle" for internal and external application do not make as strong an appeal to modern minds as they did when written. In all the references to John Wesley and his life-work that the writer has read, the knowledge of medicine possessed by him seems to have been ignored. There is much sound medicinal doctrine in this little book, which must have been written when the great preacher was at his busiest.

The Care of Artificial Eyes.

DR. ISAAC A. DAVIDSON, Belfast, dealing in the "British Medical Journal" (I., 1921, 685) with the care of artificial eyes, writes that breakages most often occur in the act of introducing or removing the eye from the socket. This cause is prevented by performing the act with the head bent over a soft surface, such as the bedclothes. He recommends also that a little absorbent wool be placed in the concavity of the eye, and that then a little dilute boric-acid ointment be smeared on that part of the wool nearest the source of the lacrymal secretion. The wool absorbs fluid during the day and prevents the disagreeable watering of the eye which most wearers experience.

Vitex as a Rival of Quinine.

SOME details of the treatment of malarial and blackwater fevers by infusions and extract of *Vitex peduncularis*, Wall (variety *Roxburghiana*), are given in "The British Medical Journal," 1921, p. 186, by Lieut.-Colonel Vaughan, I.M.S. The dosage and method of preparing the infusion adopted by Dr. Vaughan are closely in accordance with the recipe given him by his Uraon informant in 1919, and are as follows:

Two ounces of the leaf used fresh, or dried in the shade, is dropped into 40 oz. of boiling water, and is boiled in it for five to ten minutes, and then allowed to soak in the water in which it has been boiled for an hour at least. The resulting infusion, amounting to about 40 oz., is poured off the soaking leaf and given as required in doses of about 8 to 10 oz., distributed over twenty-four hours, or given over the day only, the patient resting all night undisturbed. The infusion is of about the colour of strong cold tea, and not unlike it in taste, and is given sweetened with a little sugar to taste.

Finding it a useful preparation, an attempt was made to prepare a concentrated infusion on the lines of inf. gent. co. (conc.), B.P. This, however, proved to be less reliable than the simple infusion. In order, therefore, to enable a stronger dose to be given, and at the same time to avoid too great a volume, 40-oz. infusions from 1, 2, and 4 oz. of leaf were prepared. The results, particularly in malarial fever, in which more experience has been gained, have been uniformly encouraging, but at the same time hampered through lack of a standardised dosage. The drug appears to have no toxicity, and the active principle is still unknown. The root bark and stem bark are about as useful as the leaves. Dr. Vaughan calls attention to the extraordinary parallel in the types of the results of the treatment with quinine on the one hand and vitex on the other; also to the encouraging general result of the cure which, so far, has been as uniform as with quinine. Summing up the differences between these two drugs, he says:

1. Quinine is extremely bitter; vitex is not so.

2. Quinine produces many troublesome effects and after-effects, and is toxic. Vitex produces nothing approaching quininism, and seems to be absolutely non-toxic, and, so far, has given no unpleasant after-effects.

3. Quinine is known to have definite depressing effects on the heart and circulation; vitex, after its use, produces a feeling of well-being, is mildly stimulant, appears to have no depressing effect on the heart, and has a clear diuretic effect.

4. Quinine is oxytoxic, and there are dangers in giving it in pregnancy. Vitex, as far as our experience of it goes, has apparently no such dangers attending its administration.

The formulas employed in compounding the preparation are:

1. *Infusion of leaf.*—In three strengths, as detailed in the foregoing notes—1 in 40, 2 in 40, and 4 in 40.

2. *Concentrated infusion of leaf.*

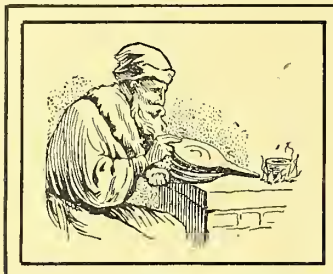
Powdered leaf	8 oz.
Alcohol, 90 per cent.	2½ oz.
Chloroform-water	ad 12 oz.

Make up to 12 oz. with chloroform-water after a week's percolation and straining off liquid. Dose: Half to one ounce every four hours. Found as good as leaf infusions (1).

3. *Fresh stem bark extract.*

Ground bark	4½ oz.
Alcohol, 90 per cent.	6 oz.
Chloroform-water	30 oz.

Percolate for a week, and make up liquid with chloroform-water to 30 oz. Dose: Four to six teaspoonfuls every four hours. Found about as effective as leaf infusions (1).



Reviews of Books.



A Research on the Eucalypts, especially in regard to their Essential Oils. By Richard T. Baker and Henry G. Smith. Second edition. 12 in. × 9½ in. Pp. 471. (Published by authority of the Government of the State of New South Wales, Sydney.)

The first edition of this work will be remembered by those interested in essential oils as being a very elaborate, as well as a very exhaustive, treatise on the eucalypts. The second edition even surpasses the first edition in the ornate character of its general style. It is printed on exceedingly good paper, very handsomely bound, and the illustrations, including some photo-micrographs, are really beautiful works of art. The greater part of the volume is devoted to a systematic description of the various eucalpyts, including all known details of the characters of their essentials oils. There is, in addition, a very interesting section on the constituents of eucalyptus oils.

Under cineol, a *résumé* of the methods for the quantitative determination is given, although, of course, publication was too late to include the *o*-cresol method recently announced. The resorcinol method is stated to be unsuitable in some cases, and to give results in agreement with those obtained by the phosphoric-acid method in other cases.

The method preferred by the authors is a modified method of the British Pharmacopœia process, using phosphoric acid and petroleum ether. This method is as follows : If the oil contains over 60 per cent. of cineol the sample should be diluted with one-third of its volume of freshly distilled turpentine. If not over 60 per cent., the oil may be used as it is. Ten c.c. of the oil is placed in a suitable vessel stood in a bath of ice and salt, and 4 c.c. of phosphoric acid is slowly added, a few drops at a time (3 c.c. if the oil contains less than 30 per cent. of cineol), incorporating these between each addition. The cineol phosphate is allowed to stand in the bath for five minutes, and 10 c.c. of petroleum ether, also cooled in the bath, is added and incorporated with the phosphate cake by means of a flat-ended rod. The mixture is at once transferred to a small Buchner funnel, 5 c.c. in diameter, upon which is a closely fitting filter paper. The uncombined substances are quickly removed by the filter pump and the dried cake transferred to a piece of fine calico, and the calico pad is wrapped in several pieces of absorbent paper and pressed for three minutes. The remainder of the process is the usual decomposition of the phosphate and the measurement of the cineol. Full details of the occurrence of geraniol and its esters of terpineol, pipentol, endesmol, and the various other compounds discovered in eucalyptus oils, are given by the authors. Of particular interest are the aldehyde, cryptal, and aromadendral, and also the comparatively newly discovered phenol australol. The work deserves every commendation, and we congratulate the authors, publishers, and printers in the successful production of so interesting and valuable a monograph.

The Chemistry of Essential Oils and Artificial Perfumes. By Ernest J. Parry, B.Sc. (Lond.), F.I.C., F.C.S. Vol. I., Monographs on Essential Oils. Fourth revised edition. 10 in. × 6¼ in. Pp. 549. Illustrated. 30*s.* (London : Scott, Greenwood & Son, 8 Broadway, Ludgate, E.C. 4.)

The first edition of Mr. Parry's book was published in 1899, and the third (in two volumes) in 1918. The present volume is an enlarged revision of Vol. I., and deals in a series of monographs with the sources and characters of the essential oils of commerce. The monographs are classified under the Natural Orders of the plants yielding the essential oils, so that the book begins with oak moss oil, N.O. *Parmeliaceæ* and ends with Phoberos cochinchinensis oil, N.O. *Flacourtiaceæ*. An appendix deals with oil of chenopodium. In comparing it with the last edition we find that the new edition contains references to all the advances in essential-oil industry and chemistry up to the end of 1920, a fact which gives the advantage of several years to Mr. Parry's book. Some of the additions are : Roberts' work on oil of the deodar tree, with Schimmel's further researches carried out during the war ; Simonsen's examination in 1920 of oil of *Pinus longifolia* and the isolation of *d*-carvene and longifolene ; Henry and Flood's work on Douglas fir oil (briefly referred to in the *C. & D.*, I., 1920, p. 164) ; Furukawa's examination of Formosan citronella oil, and Kafaku's identification of myrcene and a new aldehyde in the oil ; Hofman's investigation of oil of *Cymbopogon javanensis* ; Rennie's examination of the oils of xanthorrhœa resin ; Dodge and Sherndal on cassia oil ; Roure-Bertrand Fils on oil from Puchury-major bean ; Rabak's investigation on the influence of environment on spearmint oil ; Miller on oil of *Monarda fistulosa* ; Hoshino on oil of *Mosla japonica* ; Kondo and Yamaguchi on perilla oil ; Weehuizen on coleus oil ; Correll on pycnanthemum oil ; Tsuchihashi and Tasaki on jasmin oil ; and Furukawa on Japanese geranium oil. Mention of these researches by Japanese workers emphasises the fact that nothing of importance seems to have been missed in the new edition, which will maintain the lead which Mr. Parry's work has among books on essential oils.

Famous Chemists : The Men and their Work, by Sir William A. Tilden, F.R.S., D.Sc., LL.D., Sc.D. 8 in. × 5 in. Pp. 296. 12*s.* 6*d.* (London : George Routledge & Sons, Ltd.)

This work, as the author says, has no pretension to the character of another history of chemistry. It consists of biographical and critical notices of twenty-one eminent chemists, of whom the first is the Hon. Robert Boyle, usually regarded as the father of modern chemistry, and the last Sir William Ramsay, who died in 1914. The difficulty of selecting the subjects for treatment has been happily met by adopting as the guiding principle the evolution of the atomic theory, and by this means the whole work has been given an historical as well as a biographical value. Starting with Boyle's definition of an element as a substance incapable of further analysis, and his discovery of the law connecting volume and pressure in gases, the progress of discovery is traced in the careers of Black, Priestley, Cavendish, Scheele, Lavoisier, and Davy, up to the enunciation of the atomic theory by John Dalton, the remainder of the book being devoted to men who, in the writer's opinion, have been most concerned in the establishment and development of this theory. The study of gases had been the chief work of most of Dalton's precursors, and it was by this route that he was led to his discovery. It was, says Sir William, in connection with his meteorological observations and his meditations on the properties of gases that the atomic theory took definite shape in his mind. The biographies which precede his in this volume are therefore as relevant as those which

follow, of Gay-Lussac, Proust, Berzelius, and others whose researches led to the modification and perfection of the theory and to further discoveries resulting from its adoption. The unity of interest throughout which is thus secured gives a peculiar value to the book; every biography in it is illustrated by, and reflects some light upon, every other; the lives of all these men were, from the author's point of view, chapters in the history of a great scientific movement. This is not to say that they are interesting only as such. It is true they vary in biographical interest, as their subjects do in the possession of interesting characteristics. Some of them are little more than records of work done, while others are lifelike portraits, on a small scale, of the workers themselves. Among the most successful of these are the lives of Faraday, Frankland, Davy, Berzelius, and Mendeleëff, which, however, it is somewhat invidious to select for special mention, since the reason for doing so may be only a personal preference. The story of Frankland's early struggles is particularly interesting to pharmacists who have had very similar experiences—though they may have failed to put them to as good use. Frankland confesses that all the Latin he ever had was beaten into him by a cane and never really took root in his mind. The shop in which he served a six years' apprenticeship was almost as much a grocer's as a chemist's, and his master's piety was "not inconsistent with the neglect of his apprentices." Yet somehow Frankland managed to pick up such a knowledge of chemistry as enabled him when his apprenticeship was over to enter the laboratory of Dr. Lyon Playfair, then chemist to the Government Department of Woods and Forests. It is noteworthy, by the way, that about half the men dealt with in this book began their career as chemists in the pharmacist's or the doctor's shop. Among these were Black, Davy, Scheele, Berzelius, Proust, Dumas, and Liebig. The most eccentric character in the book is Henry Cavendish, son of Lord Charles Cavendish, and said to have been "the richest of all the learned and probably the most learned of all the rich." There is little to tell of him except the record of his work, mainly concerned with the composition of the air, and a few stories illustrating his eccentricities. One of these is that having invited a party of five to dine with him (a very unusual occurrence) he ordered his servant to provide his customary fare, a leg of mutton. "But, sir," said the man, "that will not be enough for such a number." "Then get two legs," was the reply. One of the longest articles in the book is that on Sir Humphry Davy, whose character and achievements are admirably summed up, though more than justice is done to the very indifferent verse on the strength of which his reputation as a poet depends. One remark of Sir William Tilden's on a subject connected with Davy's discovery of the elements sodium and potassium strikes us as needing qualification. We are told that in Black's time soda and potash were confused under the common name of *alkali*, but Nicholson, writing in Black's lifetime, distinguishes between the two as vegetable and mineral alkali. Further on in his "Chemistry" this writer makes the curious remark that the chemist is under no obligation to procure these alkalis absolutely disengaged from all other matter. Had Davy shared this opinion his discovery would hardly have been made. Among the most interesting articles in the book from the scientific point of view are those on Lavoisier, the great anti-phlogistian, and on Avagadro and Cannizzaro and their researches into the constitution of molecules, while that on Mendeleëff stands out as a picture of a great personality, to whom was largely owing "the great generalisation known as the Periodic Law," the first step towards which was taken by J. A. R. Newlands in 1864-5. Full justice is done, considering the space occupied, to the work of Sir William Crookes and Sir William Ramsay. The excursion of Crookes into what is known as spiritualism is judiciously handled without undue bias for or against the authenticity of the phenomena examined, but the memorable words of Faraday, warning his pupils against the "superstitions" connected with the table-turning of his time are quoted with evident approval. Faraday, on the whole, stands out pre-eminently among his fellows as a man of great charm of character and simplicity of life. Of Sir William Ramsay it is said that no man since Davy has made in chemistry discoveries so fundamental and far-reaching. The style of the book, we must add, leaves something to be desired. A misprint of 1706 for 1766 makes nonsense of a sentence on page 105.

A Textbook of Botany for Medical and Pharmaceutical Students. By JAMES SMALL, D.Sc. (Lond.), Ph.C., F.L.S. 8½ in. × 5⅝ in. Pp. 681. 1,350 illustrations. 25*s*. (London: J. & A. Churchill, 7 Great Marlborough Street, W.)

Dr. Small, who is now Professor of Botany in the Queen's University of Belfast, was formerly lecturer in botany to the Pharmaceutical Society of Great Britain, and hence in the preparation of a work on his special subject is well equipped as to the requirements of pharmacy students. The book is intended to replace Reynolds Green's "Manual of Botany," and seems to be a definite improvement on the older work, which was for long a favourite with pharmacists. The syllabus of the Qualifying examination of the Pharmaceutical Society of Great Britain is covered by that part of the book printed in large type, while smaller type has been used for the more extended syllabus of the Major examination, thus making the book equally suited for elementary and advanced students. Medicinal and other economic plants or products are frequently referred to in the course of the book, and there are appendices giving (1) diagnostic characters of certain medicinal or poisonous plants; (2) a scheme for the technical description of a plant; and (3) tests for tissues and various plant substances. The plants mentioned in the first appendix are those named in the examination syllabus for the Qualifying examination for chemists and druggists. Part I., dealing mainly with the physiological processes and anatomical features of plants, begins with a pleasantly written account of the dandelion, and Part II. deals with the structural details of the lower plants and the principles of classification. The chapter on bacteria refers to the ginger-beer plant, which has interested many *C. & D.* readers for some years. The last chapter, on the uses of botany, is what the author calls "a straight talk to the student who sees in this fascinating study of plant life only a weary wilderness of technical terms and the dry bones of facts which are of no use to him or to anyone else." The book is the best of its kind for pharmaceutical students.

Chemical Technology and Analysis of Oils, Fats and Waxes. By Dr. J. LEWKOWITSCH, M.A., F.I.C. Edited by GEORGE H. WARBURTON. Vol. I. Sixth edition. 9 in. × 5¾ in.. Pp. 682. (London: Macmillan & Co., Ltd., St. Martin's Street, W.C.)

The fifth edition of this volume was the last to be issued before the premature death in 1913 of Dr. Lewkowitsch, who was the chief authority at the time on vegetable and animal fats and oils. Mr. Warburton, who was his assistant and who carries on Dr. Lewkowitsch's practice, edited the other two volumes, and has now rewritten and enlarged the first volume. Since 1913 great advances have been made in the oil-pressing industry, and these are concisely embodied in the work under review, so that there has not been a great increase in bulk. To give an idea of the contents of the volume we repeat the chapter headings: (I.) Classification of oils, fats and waxes and physical and chemical properties; (II.) saponification of fats and waxes; (III.) constituents of fats and waxes; (IV.) preparation of the fatty matter for examination—preliminary tests; (V.) physical methods of examination; (VI.) quantitative chemical methods; (VII.) qualitative chemical methods; (VIII.) examination of mixed fatty acids; (IX.) estimation of unsaponifiable methods; (X.) detection and quantitative determination of rosin; (XI.) application of methods to the systematic examination of natural oils, fats and waxes; (XII.) examination by strictly scientific methods. The index to the whole work will be given in the third volume, shortly to be published.



The Treatment of Colds.



In a recent issue of "The Lancet" it is stated that the "common cold" has been termed the opprobrium of the medical profession, and it is suggested that doctors have held their heads too high and dreamed too many bacteriological dreams, "forgetting that the first word must be said before the last can be added." This reference occurs in an article dealing with medical statistics, which reveals the fact that John Graunt, a London draper, was the father of this subject, and that the present system of collating vital statistics owes its inception not to a learned member of the Royal College of Physicians, but to a humble licentiate of the Society of Apothecaries—Mr. Farr.

"Colds" are certainly an object of vital importance if numerical frequency is an element of statistical interest, but it is remarkable how little doctors know about colds. "The Lancet" formulates the following five questions, all of which have been asked of chemists many times. They are :

1. Do the colds of sedentary workers last longer than those of outdoor workers?
2. Other things being equal, does keeping indoors with a cold answer better than going out?
3. Is it true that summer colds are the most intractable?
4. Is the mode of onset of a "common cold" of any importance in its prognosis as to severity and duration?
5. Is there a secular change of type in the common cold?

No answer is given to these questions, and it is suggested that they should be the subject of a special inquiry.

As the result of more years of practice than I care to say, I would venture to reply to these questions as follows :

1. The indoor worker's "cold" lasts longer than that of the outdoor worker. Moreover, in my experience the artisan or labourer who works in the open air is not so subject to "colds" as his sedentary fellow-worker.

2. Keeping indoors answers better than going out. In Hutchison's "Index of Treatment" Mr. Harry Lambert Jack, of the London Hospital, writes that "whenever possible the patient should remain in bed one day and stay in the house another day, if the weather is inclement."

3. In my view the popular notion that summer colds are hard to get rid of is not correct. The warm, moist air of the summer is soothing, whereas the cold, dry air of winter is intensely irritating to an inflamed mucous membrane.

4. The mode of onset of a "cold" is important. It may develop as (1) a discharge from the nostrils—the ordinary "cold in the head," (2) as a sore throat, (3) as a cough—the ordinary "cold on the chest." The last-mentioned variety is the most important and likely to last longest. Midway in importance is the sore throat, and least important in the series is "cold in the head."

5. There is considerable variety in the types of cold met with, and the cause of the infection varies widely. Some infections are much less amenable to treatment than others. The microbe which causes the condition varies widely. The commonest organism is the *Micrococcus catarrhalis*.

These preliminary statements will assist chemists in formulating answers to inquiries frequently made across the counter. Doctors can perhaps afford to ignore colds, but chemists certainly cannot. Very few people consult a doctor for a common cold, but practically everyone consults a chemist, either at the onset of a cold or when it has been established.

Modern Methods of Treatment.

There is an excellent section on colds in "Diseases and Remedies" (Office of *C. & D.*, 5*s*.), and the following notes are intended to supplement the information therein contained. Let us first understand that all three varieties of "cold" start with a sensation of feeling cold and below par. This is due to a varying amount of fever, which may, however, be so slight as to show little rise of temperature by the clinical thermometer. Cold in the head develops into two further stages—viz. : (1) A profuse watery discharge from the nose, and (2) a sticky purulent discharge associated with loss of smell, and sometimes of taste. The treatment of all varieties of "cold" is based on the early exhibition of opium. If the chemist can get his customer, who is at the shivery stage, to go to bed and take ten grains of Dover's powder it will mean apparent bad business, as he will not require any more remedies for that "cold," but the chemist will certainly win the patient's confidence for further occasions. If the customer is at the stage of profuse watery discharge opium is still the sovereign remedy. Give him the following :

Tr. opii	♏xx.
Sod. bicarb.	gr. xl.
Aq. ad	ʒiv.

Ft. mist.

One-fourth part every four hours.

Supplement this with

Menthol	gr. v.
Acid. boric.	gr. xx.
Vaselin. alb.	ʒij.
Lanolin. ad	℥ss.

Ft. ung.

Apply high up in the nostrils frequently.

If, however, he has reached the stage of sticky discharge give him the following :

Sod. bicarb.,	
Sod. biborat.,	
Sod. chlor. ... ... aa.	gr. ij.
Sacch. alb.	gr. v.
Aq. ad	ʒj.

Ft. collunarium.

Use three times a day.

This nasal douche will keep the sufferer thoroughly comfortable, and, supplemented with the following mixture internally, will establish the pharmacist's reputation as a "cold-curer."

Quinine has a reputation in colds, but it is best given in effervescence. The following prescription was devised by Dr. Leonard Williams, Harley Street :

Mixture A.		*Mixture B.*	
Quin. sulph. ...	gr. iiss.	Potass. bicarb. ...	gr. x.
Acid. citric. ...	gr. x.	Ammon. carb. ...	gr. iiss.
Aq. ad	℥ss.	Syr. aurant. ...	ʒj.
Ft. mist. et signetur.		Aq. ad	℥j.
		Ft. mist. et signetur.	

A tablespoonful of Mixture A with two tablespoonfuls of Mixture B in effervescence three times daily.

Suppose our patient has developed a sore throat instead of a "cold" in the head. Give him the following,

which the medical writer I have quoted from above describes as "a sovereign remedy":

Tr. aconiti		♏ij.
Potass. chlor.		gr. v.
Liq. ferri perchlor.		♏xx.
Liq. hydrarg. perchlor.		♏x.
Liq. strychninæ		♏ij.
Glycerin.		℥j.
Aq. chlorof. ad		℥j.

Ft. mist.

To be gargled and then swallowed every four hours.

If the "cold" has gone to the chest inhalations of tr. benzoin. co. and hot water are useful, and, as a dry inhalant, there is nothing to equal the following:

Terebene,		
Ol. eucalypti,		
Camphor,		
Menthol	aa.	partes æquale

Ft. vapor.

It has, however, the serious objection of being expensive. Internally the following mixture is excellent:

Vin. antim.,		
Vin. ipecac., ...	aa.	♏x.
Sp. æth. nit.		♏xxx.
Liq. ammon. acet.		℥ij.
Syr. limon.		℥j.
Mist. amygdalæ ad		℥j.

Ft. mist.

Every four hours.

Sometimes a tickling cough is a troublesome sequela to a "cold" on the chest.

Heroin is useful, but the well-known equal parts of tr. camph. co., ox. scillæ, syr. tolu, and glycerin has given even better results in my hands.

Having got your patient over his "cold" he will want a tonic, such as the following:

Tr. cinchonæ co.		℥ss.
Tr. nucis vom.		♏v.
Sp. ammon. arom.		♏xx.
Aq. chlorof. ad		℥j.

Ft. mist.

℥j. t.d.s. post cib.

I suggest that the chemist who studies the foregoing lines of treatment will be doing a signal service to the community, and in no way interfering with the local doctors, seeing that "The Lancet" very truly declares they do not bother about mere "colds."—*Medicus* (19/9).

New Books.

Annual Reports on the Progress of Chemistry for 1920. Issued by the Chemical Society. Vol. XVII. 8⅜ in. × 5½ in. Pp. 264. 7*s.* 6*d.* Gurney & Jackson, 33 Paternoster Row, London, E.C. [This volume continues the very useful annual epitomes of the progress in chemistry which the Chemical Society has issued for some years. It was the last work edited by the late Dr. J. C. Cain. The reports in the volume are as follows: General and Physical Chemistry, by Dr. W. C. McC. Lewis; Inorganic Chemistry, by Professor E. C. C. Baly; Organic Chemistry (three divisions), by Drs. R. H. Pickard, R. Robinson, and J. Kenner; Analytical Chemistry, by Mr. C. Ainsworth Mitchell; Physiological Chemistry, by Dr. G. Barger; Agricultural Chemistry and Vegetable Physiology, by Dr. E. J. Russell; Crystallography and Metallurgy, by Mr. T. V. Barker; and Radioactivity, by Professor F. Soddy. The reports are attractively written, with copious references to the publications where fuller particulars may be gained.]

Hampshire, C. H.—*Volumetric Analysis for Students of Pharmaceutical and General Chemistry.* 7½ in. × 4⅞ in. Pp. 124. 7*s.* 6*d.* Third edition. J. & A. Churchill, 7 Great Marlborough Street, London, W. [Now a favourite book with pharmacy students: presents first an introductory course in volumetric analysis and then a specialised one for students of pharmacy. The analytical processes of the British Pharmacopœia are dealt with in detail. Mr. Hampshire was formerly demonstrator in chemistry in the Pharmaceutical Society's School of Pharmacy, and hence is particularly well acquainted with the requirements of pharmacy students.]

Kaye, G. W. C., and Laby, T. H.—*Tables of Physical and Chemical Constants and some Mathematical Functions.* 9⅞ in. × 6½ in. Pp. 161. 14*s.* Fourth edition. Longmans, Green & Co., 39 Paternoster Row, London, E.C. [This is now a standard work on constants. The authors have brought it up to date, but have taken care to preserve its handy size. The work is noted for the clear setting and concise arrangement of the contents. The tables deal with general physics, heat, sound, light, electricity, magnetism, radioactivity, and chemistry. The book begins with tables of atomic weights. The tables of chemical constants occupy twenty pages.]

Parry, E. J.—*The Raw Materials of Perfumery.* 7¼ in. × 4⅝ in. Pp. 112. 3*s.* net. Sir Isaac Pitman & Sons, Ltd., Parker Street, Kingsway, London, W.C. 2. [Deals with perfume materials from plants and animals, and has a chapter on artificial perfumes. These divisions of the subject are well summarised and the author has made the best use of the small space available. Mr. Parry is the chief authority on the subject in this country and the information given carries his authority.]

Rideal, S., and Walker, J. T. Ainslie.—*Approved Technique of the Rideal-Walker Test.* 7⅛ in. × 4¾ in. Pp. 12. Paper covers. 1*s.* H. K. Lewis & Co., Ltd., Gower Street, London, W.C. 1. [Gives the exact details of the method of obtaining the Rideal-Walker coefficient of disinfectants. The nutrient broth contains Liebig's extract of meat and Allen & Hanburys' peptone. The importance of definite instructions in applying this test is well appreciated by chemists.]

Svedberg, T.—*The Formation of Colloids.* 7½ in. × 4⅞ in. Pp. 127. 7*s.* 6*d.* net. J. & A. Churchill, 7 Great Marlborough Street, London, W. [The Svedberg is professor of physical chemistry in the University of Upsala, and he has adopted the system of writing short monographs on different aspects of colloids as the best method of dealing with the rapid development of the science of colloids. This is the first monograph of the series, and in it are surveyed the processes which cause the formation of colloids. It is a readable little book, dealing with the formation of disperse systems in gases, liquids, and solids, and also dispersion processes. For details of the preparation of the various colloids the author refers the reader to his larger book or to references in the excellent bibliography given at the end.]

Theedam, H. M.—*Business Management for Small Retailers.* 7¼ in. × 4½ in. Pp. 109. 3*s.* 6*d.* Sir Isaac Pitman & Sons, Ltd., Parker Street, Kingsway, London, W.C. 2. [Deals with the organisation and management of small businesses. Chapters are devoted to buying a business, correspondence, book-keeping, banking, calculating profits, ordering goods, window-dressing. In the chapter on calculating profits emphasis is laid on the point that profits are based on selling price.

Tschirch, A.—*Handbuch der Pharmakognosie.* Band III. Lieferung 1. 11 in. × 8 in. Pp. 64. Price 10 marks. Chr. Hermann, Tauchnitz, Leipzig. [This is the first part of the third volume of Professor Tschirch's monumental "Handbuch der Pharmakognosie," of which portions of the first two volumes have been extensively reviewed in the *C. & D.*, the whole volume to be completed in about twenty parts. Tschirch's work on drugs is now a recognised standard authority, which is all the more valuable for the interesting form in which the wealth of information is presented, and further heightened by a profusion of excellent photographic reproductions. The new volume will deal with phloroglucid-containing drugs, tannin drugs, alkaloidal drugs, antigen (toxalbumin) drugs, drugs which inhibit the coagulability of blood; enzyme drugs, drugs containing bitter principles, drugs which contain substances inhibiting certain sensations of taste, diuretics, drugs containing vesicatory principles, drugs containing dyes, and those containing resins. The first part deals with the drugs used as tænicides—male fern, kousso, kamala, and a number of less used drugs. Of the drugs containing tannin, catechu, gambir, kino, and varieties of the latter are dealt with. Each chapter is preceded by a review of the chemistry of the active principles.]

Photographic Notes.

The Professional's Developer.

A contributor to "The British Journal of Photography" supplies the following developer for professional use :

Metol	5iij.
Quinol	5vj.
Sodium sulphite	5vj.
Sodium hydrate	5iv.
Water	5xxxij.

For use dilute 1 oz. with water to make 25 oz.; it forms an excellent developer.

Pheno-safranin Developers.

Dr. Luppo-Cramer gives the following formulas for developers in which safranin is added, so that development can be carried out in a yellow light :

Quinol.

A.		*B.*	
Sodium sulphite	100 grams	Potassium carbonate ...	50 grams
Hydroquinone	12 grams	Pheno-safranin (1 : 2,000) ...	200 c.c.
Potassium bromide ...	1 gram	Water to make	1,000 c.c.
Water ...	1,000 c.c.		

Paramidophenol.

Paramidophenol hydrochloride	20 grams
Potassium metasulphite ...	50 grams
Potassium bromide	4 grams
Water	125 c.c.

Dissolve and add carefully the following solution :

Potassium hydrate	70 grams
Water	90 c.c.

To each 200 c.c. of the developer add 10 c.c. of a 1 per cent. solution of pheno-safranin. For use, shake well and mix with about twenty times its bulk of water.

Glycin.

Glycin	30 grams
Potassium metasulphite ...	50 grams
Potassium carbonate ...	200 grams

Mix in a mortar and add gradually

Water	180 c.c.

Then add

Pheno-safranin solution (1 : 100)	25 c.c.

For use, shake and add from 10 to 15 parts of water.

Red Sensitiveness of Gelatino-bromide Plates.

A marked degree of red sensitiveness in some "ordinary" gelatino-bromide plates was observed and recorded many years ago; it seems possible, states "Nature," that the key to this unexpected result has been found by Mr. F. F. Renwick, who contributes a paper on "The Action of Soluble Iodides on Photographic Plates" to the "Journal of the Royal Photographic Society." Mr. Renwick finds that by treating a plate for a few seconds with a very dilute solution of potassium iodide there is really no fogging effect (as Dr. S. E. Sheppard stated about a year ago), but that the plate is rendered markedly orange and red sensitive. This he demonstrates by bathing an ordinary plate for from 15 to 60 seconds in a 1 in 20,000 potassium iodide solution, washing it with water and exposing it to a spectrum. This appears to be the first instance recorded of a colourless solution conferring colour sensitiveness. Mr. Renwick has tried a fair number of different salts, but so far has discovered only one other that acts similarly. Sodium or potassium cyanide in solution of a strength of 1 in from 2,000 to 10,000 gives an exactly similar effect. The author leaves a theoretical discussion of these results to a future occasion.

Practical Notes and Formulas.

Stainless Iodine Ointment.

The following formula for a stainless iodine ointment of the same strength as the official iodine ointment was given in a paper by Mr. W. P. McEwen before the Australian Pharmaceutical Conference :

Iodine, in fine powder ...	½ oz.
Oleic acid	1 oz.
Soft paraffin	11 oz.

Mix the iodine and oleic acid and heat gently with stirring on a water-bath until combination takes place. Then add the paraffin, stir, and allow the ointment to cool. Lanoline may be used as the basis if preferred.

Liquid Dentifrice.

The following formula is proposed by Mr. Leo G. Penn, Philadelphia, for inclusion in the American National Formulary :

Guaiacum wood, Cinnamon, Star anise, of each	1½ oz.
Cloves	½ oz.
Cochineal	40 grains
Oil of peppermint	30 minims
Oil of lemon	10 minims
Alcohol (65 per cent.) to make	16 oz.

The drugs are to be ground to a No. 40 powder, and macerated in the alcohol for six days; the oils are then added, and the liquid filtered, using talcum as a medium. —"Journal of the American Pharmaceutical Association."

Destruction of Rats.

Mr. Jennison, of Belle Vue Gardens, Manchester, at a recent congress of the Royal Sanitary Institute, called attention to the Rodier plan for the destruction of rats, which has been employed at the Belle Vue Gardens for nearly five years and has reduced the number of rats by half. The method advocated by Mr. W. Rodier, of Melbourne, Australia, is to trap the animals alive, kill all the females, and release the males. The rats will thus be driven to commit race suicide as the males will worry the remaining females, hamper their rearing of the young, and even kill the latter. By this system Rodier claims to have cleared an area of 64,000 acres of rabbit-infested land in Australia. The advantages of the method are that constant vigilance is no longer necessary once an area is well in hand, and there is no fear of destroying harmless animal life by poisons. The disadvantage is the difficulty of execution.

Apparatus for Preparing Ethyl Nitrite.

An apparatus to prevent loss by evaporation in the manufacture of ethyl nitrite, devised by C. H. Pitt ("Am. Jour. Pharm.," 1920, p. 801), consists of two flasks placed in ice-baths, one flask being closed by a doubly perforated stopper. Through one perforation a thistle funnel is inserted, so that it extends to the bottom of the flask. A second tube is inserted in the other perforation, so that it just passes through the stopper and is then bent at a right-angle an inch above the stopper. This tube is again bent at a right-angle and the outlet end inserted in the second flask, extending almost to the bottom. The reaction between the sodium nitrite, alcohol, and sulphuric acid is carried on in the first flask, and when the ethyl nitrite has collected on the surface of the mixture, more water is poured in until the ethyl nitrite is forced over into the second flask. The tubes are now reversed, and the washing with sodium carbonate accomplished in the second flask. The ethyl nitrite is returned to the first flask (which, of course, has been cleaned), and is washed by repeating the process. To avoid contact with a rubber stopper distillation flasks may be substituted for the Florentine or Erlenmeyer flasks.



The Chemists' Exhibition.



THE twenty-second Chemists' Exhibition, organised by "The British and Colonial Pharmacist," is being held this week in the Central Hall, Westminster, London, S.W., and remains open till Friday evening (June 24). The exhibition occupies two floors, on the lower of which music is rendered and refreshments are obtainable. So far as we could judge on the opening day, the collection of exhibits is distinctly the best, and possibly the largest, that has ever been assembled under the same auspices. The stall in aid of the Pharmaceutical Society's Benevolent Fund, being an exhibit *sui generis* in charge of lady pharmacists and ladies related to pharmacists, must take precedence of ordinary displays, and is accordingly mentioned first. It occupies a large space, and with its heaped-up profusion of hand-worked articles impressed even a *C. & D.* representative, who could only imagine, without understanding, the amount of work it represented. It is as well to add that male visitors do not pass without being challenged: they can, if they wish, choose pipes or radium (the latter in pill-boxes). The judging for the competition in needlework for the prizes offered by Eucryl, Ltd., and Glaxo took place on June 17, the judge being a lady appointed by "The Drapers' Record." The result was that Miss Gwen Jones won the Eucryl prize, and Mrs. G. Curtis the Glaxo prize. Miss Gwen Jones is the eldest daughter of Mr. Amos Jones, Long Acre, London, W.C. 2. Both ladies had completed a great deal of needlework for the Ladies' Sewing Guild. In the following paragraphs we summarise our impressions of the stands:

C. B. ALLEN & SONS (Messrs. C. T. Allen, Ph.C., and W. H. Allen, Ph.C.), well known in the West End as the proprietors of an old dispensing business, are exhibiting for the first time bottles and tins of their "Soap Bark Tooth Powder," which comes on the market with a reputation extending over more than sixty years. Special bonus terms are offered in addition to a good discount.

ALLEN & HANBURYS, LTD., have an island stand effectively filled with "things new and old," and a *C. & D.* representative who called was tempted to spend a whole afternoon there. Having looked at Bynotone, the extensive Torch Brand series, the Breakfast and other foods, essential oils, ampoules, resins, and so forth, his attention was called to a selection of old day-books and other documents handed down by the predecessors of the present company. It was of unusual interest to see, by these records, the kind of business that Sylvanus Bevan carried on in the eighteenth century. Another treasure on view is a large metal mortar bearing the inscription "Richard Raper, Apothecary at the Bell and Lyon in Cheapside, London, 1705."

ROBERT BAILEY & SON, LTD., pay special attention to sterilised dressings. A section of their stand is devoted to the safety razors and blades manufactured by the Graham Lambert Manufacturing Co., Ltd., Leicester, for whom Messrs. Bailey are now the sole agents.

By a happy inspiration, JOHN BELL & CROYDEN, LTD., have conveyed a suggestion of the oak fittings of their Wigmore Street pharmacy in the *décor* of their handsome stand. Extended reference to the products of this historic house will be found in an article in this issue (p. 128).

ARTHUR BERTON, LTD., have a good display of surgical dressings, manicure sets, brushes, and sundries. They suggest that chemists might do a good business in first-aid cases, in view of the dangers attending the joys of motoring.

T. F. BRISTOW & CO., LTD., are already catering for the coming Christmas trade, and have an excellent display conditioned to some extent by this fact. Their history extends from 1777 to 1921, and they are taking full advantage of the record on their labels. Georgian soap and Almond Blossom soap are two lines that we had not seen previously: these are sumptuously finished and wrapped, and go well with Messrs. Bristow's cut-glass decanters of perfume.

BRITISH COLLOIDS, LTD., have recently introduced collosol zinc cream, a vanishing-cream medicated by the addition of colloidal zinc. Mercury-and-sulphur hair lotion for scalp diseases is another advance, the preparation being more elegant and effective than the old type of this lotion.

BROWN & SON have a compact display of their stills and autoclaves, which are the outcome of constant thought and experiment, and are practical in the best sense of the word.

THE WILLIAM BROWNING CO., LTD., have a comprehensive display in charge of Mr. Sydney Jamieson, who is assisted by a skilled staff. A wide range of petroleum jellies is shown, the finest of which are issued under the Semprolia brand. The laxative conserve known as Semprolax is now put up in the kind of jar often associated with malt extract, and, we learn, is in large and increasing demand. Semprolia snow, a recently introduced vanishing-cream, is put up in distinctive opal jars (cartoned) that serve to introduce it effectively; and the snow itself disappears into the skin, as we found, with a minimum of application. Messrs. Browning have an advertising campaign in progress, with a window-show bonus as one of its features.

BURGOYNE, BURBIDGES & CO., LTD., have an almost endless variety of packed goods and toilet requisites displayed at their stand. Many fine and other chemicals which were, prior to the war, of Continental origin, are also exhibited.

W. J. BUSH & CO., LTD., report further progress in the manufacture of synthetic chemicals, chemically pure artificial violet oil and alpha-ionone being among the more recent additions. On the perfumery side, too, Messrs. Bush have been active, as, in addition to Potter & Moore's lavender water and eau de Cologne, recent creations under the names of "Purple Heather" and "Devon Violets" are being exhibited.

W. H. CALNAN & CO., LTD., have adopted a decorative scheme with a grey background for their stand, and have almost filled it with the products of the two divinities Rosine and De Luzy. It is of interest to learn from Mr. Calnan that on his last visit to Paris he was able to persuade the manufacturers of these goods to adopt display "outers," which, by harmonising with the goods that they contain, will help sales considerably. We have recorded that Messrs. Calnan's stand was "almost" filled with these items of fine perfumery so as to leave room for a mention of the branded shaving-brushes of T. S. Simms & Co., Ltd., St. John, N.B. Not only are the brushes guaranteed, but the brand-number makes repetition easy. They are remarkably well made, and clever advertising-matter accompanies them.

CAMWAL, LTD., have given prominence to Aquaperia, the Harrogate Aperient water, and Aquaperia salts, which contain the active medicinal salts of the water bottled at Harrogate.

W. B. CARTWRIGHT, LTD., have one of the largest stands in the exhibition, and, for the retailer in search of ideas

on the best methods to adopt to attract attention to his goods, one of the most valuable. The stand, in the main, comprises a series of window-shows, each devoted to one of the company's leading lines. The advertising matter in connection with the goods is worthy of attention, as will be understood from the fact that Messrs. Cartwright have a number of artists on their staff, samples of whose work may be seen in the hand-painted posters on view.

The cleverly made stands of A. F. Corbett & Co., Ltd., for whom W. H. Calnan & Co., Ltd., are agents in Great Britain in the drug-trade, are always worth a visit, as there is usually something that the visitor has not seen before. This year, in addition to "Astral" and "Rustic" stands, Messrs. Corbett have an all-glass showcase held together by something in the nature of metal clips.

Arthur H. Cox & Co., Ltd., are, as Mr. Wigginton truly remarked to our representative, an old-established company with up-to-date ideas. Silvered pills and tablets are becoming increasingly popular, and to obtain this coating the company use a special solution. As regards soaps, mention must be made of the bath-tablets and Cleopatra series, which are packed in novel styles. A visit to Messrs. Cox's "museum" is interesting, and demonstrates the advances made in pill-making during the past fifty years. Mention must also be made of a showcard on which are fixed bottles of tablets, giving concise information as to the name, therapeutic use, number, and price of the tablets.

Cresswell Brothers' Branch, International Sponge Importers, Ltd., have literally covered the walls of their stand with sponges, and the effect is excellent. We were pleased to learn from Mr. Harold Cresswell that honeycomb sponges are in good supply at practically the prices of 1914, and that thus it is possible for the retailer once more to range his prices from 6*d.* upwards. Messrs. Cresswell's "Ablutonic" rubber sponges maintain their fine quality, and are worth introduction as a toilet-luxury where they are not already known.

T. W. Culmer & Sons now standardise their "Culmak" shaving-brushes into three sizes and three qualities in each size, the selling prices (P.A.T.A.) being distinctly marked on each brush. These brushes are guaranteed free from anthrax, and it is not necessary, as some users are in the habit of doing, to boil or further sterilise them.

The atomisers of the De Vilbiss Co., Ltd., are of the customary variety and finish. The favourite at present appears to be No. 15, which has a long metal tube with a "nose" that can be moved up and down. Like others of the company's well-finished sprays and atomisers, this can be used from an open vessel.

Dubarry & Cie. have among their large and tastefully arranged display a set of bottles of bath crystals unlike any others that we have seen; the distinctiveness consists in the blended colours of the crystals, giving a striking and quite novel effect. Other new lines that we noticed were bottles of perfume with glass figures as an extension of the stoppers, smartly finished wooden soap bowls of large diameter, and display cases for half-dozens of perfumes.

Wm. Edge & Sons, Ltd., make special features of Drummer Dyes and Movol. In connection with the former there is a window-dressing competition closing on July 30; particulars may be obtained at the stand or direct from the company.

Chemists, and especially those who give due attention to their windows, may learn much from the stand of J. C. Eno, Ltd. It is clear that Messrs. Eno have by no means finished exploiting the possibilities of their decorative schemes in which grapes play an important part, and their new shows in two glass cases exemplify the window-dresser's art very attractively.

The Erasmic Co., Ltd., occupy a stand—or rather two stands—at the top of the stairs leading to the lower hall. The display is well arranged and embraces a selection of the old-established favourites, as well as newer lines.

Eucryl, Ltd., have introduced certain artistic and attractive features into the designs for their products. This departure is clearly seen in their new shampoo-powder, a delicately perfumed and daintily wrapped article, and in Dentaline, a preparation for cleaning artificial dentures.

J. C. & J. Field, Ltd., have a display of all their well-known lines, from United Service soap to the Fleur de Lys series of toilet preparations. The black-and-gold diamond packing is now familiar, and the goods are in keeping with the company's reputation.

Marcel Franck, Paris, is the manufacturer of high-grade perfume-sprays, of which the sole selling agent in this country is Mr. T. G. Heighington. The patterns and designs are such as will suit discriminating pharmacists.

Freese & Moon, Ltd., are showing, in addition to the distinctive Avenel perfumes, one of the choicest collections of manicure-sets that we have seen. One of them includes two Baccarat finger-bowls, and the cases themselves are made in satinwood, burr walnut, and other choice woods, inlaid in brass and turned out with perfect finish. If desired the name of the chemist or of the customer can be inscribed, and the prices are remarkably moderate. The exhibit also includes elegant shaving-brushes made by Machin Fils; "Dentclair" tooth-brushes with removable heads and metal handles; and sterilised tooth- and shaving-brushes from the factory of Jims, Paris, each sent out in a transparent case, allowing of adequate inspection by customers.

Glaxo stand, although in a corner, is a conspicuous one, representing a section of a tin of the milk. The Glaxo feeders and teats are displayed, and Mr. Hugo Wolff, the sales manager, is in attendance to welcome visitors. (See also p. 133.)

C. R. Harker, Stagg & Morgan, Ltd., have this year departed somewhat from their usual custom in so much that they have a stand as well as a reception-room. Presided over by Mr. H. W. Harrie, most of the company's preparations are in evidence. We were informed that on orders for six dozen "Anti-sting," samples, bearing the chemist's name and address, will be forwarded to secretaries of local sports clubs.

The Hoffmann-La Roche Chemical Works, Ltd., have a world-wide reputation as manufacturers of alkaloids and fine chemicals, and some excellent specimens may be inspected at their stand. The packings of some of the company's specialities have been altered. Digalen, for instance, is now obtainable, for dispensing, in cartons containing six 15-c.c. bottles and at a cheaper rate. Of topical interest to pharmacists is a cube of morphine hydrochloride weighing 250 grams.

We made a point of inquiring, when calling at the stand of Howards & Sons, Ltd., as to the progress of research work on the new "super-quinine" salts to which attention has been drawn at various times in the *C. & D.* It appears that a bibliography of considerable extent is already available concerning one of these—optochin (ethyl hydrocupreine)—and Messrs. Howards issue an interesting pamphlet on the subject. Returning from the laboratory to the front counter, we were struck by the neat appearance of the series of packed solids—e.g., Epsom salts—all of which solids are uniform in style, but—an important point—are printed in a different colour for each article, thus greatly assisting the salesman.

A call at the stand of H. & T. Kirby & Co., Ltd., makes it evident that this enterprising house is forging ahead. Of interest as a summer line are Kirby's Lemonade Tablets, neatly put up in amber bottles, each containing sufficient tablets for twelve tumblers: the flavour of the resulting beverage is excellent. Another development is a series of British Pharmacopœia lozenges, well finished and bearing the names in raised letters. Round tablets of various formulas branded "N H" are another smart line: these are obtainable in cartons.

Jules Lang & Son have a carefully selected range of bottles on view. As readers of the *C. & D.* are aware, Messrs. Lang hold a very large and varied stock in London and the provinces, and deliveries are accordingly expedited.

Lysol, Ltd., show how a few tubes of their Osyl (in the new packing) or bottles of Lysoline, etc., can be easily arranged into an effective display. (See p. 131.)

MENLEY & JAMES, LTD., give prominence to Iodex soap, which, as *C. & D.* readers know, is of recent introduction. The tablets are well finished and of attractive appearance. Liquid iodex and the fine chemicals for which Messrs. Menley & James are noted are also in evidence, and business, we are glad to learn, is steady.

FRANCIS NEWBERY & SONS, LTD., have a comprehensive selection of goods, including a full range of sundries, at a well-placed stand in charge of Mr. H. A. Riles. We learn that medicated lozenges (one of Messrs. Newbery's recent additions) are going well, and that their newly acquired agency for the essential oils of J. Jakson & Co., Ltd., is resulting in satisfactory business. Two large specimen jars containing respectively oils of lavender and peppermint are a great attraction, and the stoppers are removed several times in the course of a day.

PARKE, DAVIS & Co. have an ornate stand in the upper hall, with Mr. Hickey and an energetic staff in attendance. Prominence is given to Metagen, a food containing vitamines of all the three known types, and to Salevac, a slightly sweetened and rapidly soluble granular effervescent saline. Older favourites, such as Fecto and McClintock's germicidal soap, are also in evidence; and Mr. Hickey, now happily recovered from an illness, is eloquent concerning the firm's antacid lozenges, which, it appears, are in increasing demand.

The stand of A. & F. PEARS, LTD., possesses, as one has learned to expect from Messrs. Pears, a character all its own. The purple and gold of their regalia set has fixed the mode of a colour-scheme which is carried out even to the dresses of the ladies assisting the representative in charge. Among novelties we noticed a nail-polishing cream (in pots), caskets of a pearl design containing assorted products, and a new liquid brilliantine.

PRICE'S PATENT CANDLE CO., LTD., have a distinctive stand on which they display a number of lines reserved exclusively for chemists. Prominent positions are occupied by "A Summer Night" perfume, Price's glycerin and Zinco-cream and Cutolav soaps. These soaps, we were informed, are excellent for warding off attacks by hungry mosquitoes.

PRICHARD & CONSTANCE (WHOLESALE), LTD., promise in the catalogue to interest visitors to their stand, and their representatives in charge adequately fulfil the undertaking. Their show is, in fact, a dainty and distinctive one, consisting in the main of Amami products, an advertising campaign for which is in full swing. It is worth mention that discounts to retailers have been raised of late.

If we were accustomed to the use of superlatives we should probably have saved them for a description of the stands of HENRY C. QUELCH & CO., with whom are associated A. BOURJOIS & CIE., LTD., and THE NORTHAM WARREN CORPORATION, the manufacturers of Cutex manicure specialities. Messrs. Quelch have given a lead to British exhibitors in all trades by arranging part of these exhibits on one side of a drawing-room filled with genuine Louis Quinze furniture, the value of which may be guessed. The effect is entirely charming, and one visitor at least found it hard to turn his eyes to more ordinary matters. Two ladies in Pompadour costumes have been in attendance during the week to complete the illusion of *l'ancien régime*. The Bourjois collection—one had almost written "museum"—is characteristically brilliant, and includes, in addition to such things as "compact powders" in fifteen shades, a new Ashes of Roses bath-powder packed with an unerring sense of style. We notice that Messrs. Quelch are showing for the first time Woodbury's facial soap, a smart line which should have a future.

THE SANAGEN CO., LTD., who have lately acquired new premises, make a feature at their stand of "The San-a-gen Seven Aids to Health." These, unlike the former seven wonders of the world, are closely related from the salesman's point of view, and bear a satisfactory profit: we are glad to learn that they are being appreciated overseas.

SANGERS have arrayed their stand with chemists' sundries. Demonstrations of direct impression photography (*C. & D.*, April 23, p. 54), for which the firm are now the sole wholesale agents, are being given.

THE "SANITAS" CO., LTD., are making a feature, at this exhibition, of "Sanitas" embrocation, a creamy liquid with a pleasant odour of the company's parent speciality. Prana sparklets are also in evidence, and supplies, we learn, are quite normal.

STOREY, EVANS & CO., LTD., have a stand, with Mr. J. H. Keighley in attendance, refreshingly full of advertising ideas and illustrations. Advertising, it is to be feared, is anything but an exact science so far as the retail pharmacist is concerned; and a few minutes' talk with Mr. Keighley reveals the fact that Messrs. Storey Evans are always ready with suggestions for making good lines known.

TOKALON, LTD., are specialists in toilet preparations, the style of their packings being original and distinctive. The prices of all articles are protected.

THE UNITED CHEMISTS' ASSOCIATION, LTD., are exhibiting their widely known "Ucal" preparations in the Conference Hall. A portion of the stand is devoted to a "super" series of toilet articles, the packing of which is distinctive and pleasing. The perfumes, etc., of Areco, Ltd., for which "Ucal" are the sole selling agents in the British Isles, are displayed in a separate showcase.

VENESTA, LTD., have devoted one stand to the display of collapsible tubes and a second to plywood trays, etc. The tubes can be supplied printed in four colours or less to suit a customer's own requirements. It will be recalled that part of the company's factory was destroyed by the Silvertown explosion, and this prevented the manufacture of plywood barrels. This difficulty has now been overcome, and the barrels are again obtainable.

For interesting side-lines the stand of the VIOLIV MANUFACTURING CO., LTD., is well worth a visit. The packing and finish of such lines as the coconut-oil shampoo-powders, the "Quencholeen" lemonade-powder, and the invalid table-jellies are distinctive and attractive.

The exhibit of the WESTERN TABLET CO., LTD., is topical, making a feature of "Western" lemonade tablets, which are attractively cartoned. Zol emulsion and "Ciba" products (for the latter of which the company are agents) are also prominently displayed.

WIGGLESWORTH, LTD., have a profusion of offers with which to tempt the visitor. Prominently placed on their stand is Pepsomint, a digestive tablet (as its name implies) of distinctive shape. This, we learn, is going well: it is sold in bulk, and cartons for filling are supplied if desired. Pepso-Iron Tablets (cartoned) are another recent line. To the uninitiated it may seem surprising that Messrs. Wigglesworth have ten corn-cures on sale: a glance round their stand, however, makes it clear that these are suitably backed by clever advertising ideas. An unusually smart and artistic showcard is the one advertising Morning Dew face-cream: other lines also, such as Poppy cream for bites, "Tonic" shampoo, and Jolly Roger vermin-killer (the last-named in sprinkler tins), have each their own showcards.

Among others exhibiting are: THE ABBEY CHEMICAL CO., LTD.; THE APOLLINARIS CO., LTD.; BEATSON, CLARK & CO., LTD.; FRANK BUCKLER, LTD.; THE CARMA CO.; THE CELLOPHANE CO.; THE CROWN PERFUMERY CO., LTD.; THE JOHN DALE MANUFACTURING CO.; THE BARRY DOUGLAS CO.; LEOLINE EDWARDS; J. E. ELLIS, LTD.; EXPRESS DEVELOPING CO.; FASSETT & JOHNSON, LTD.; THOMAS FELL & CO.; A. FISHER & CO.; FORD, COOK & CO., LTD.; GENATOSAN, LTD.; HORLICK'S MALTED MILK CO.; J. G. INGRAM & SON, LTD.; INGRAM & ROYLE, LTD.; AMOS JONES & CO., LTD.; KOLYNOS, INC.; LORIMER-MARSHALL, LTD.; MILTON MANUFACTURING CO., LTD.; W. T. OWBRIDGE, LTD.; PEPSODENT CO.; THE PHARMACISTS' MUTUAL SUPPLY ASSOCIATION, LTD.; THE CHARLES H. PHILLIPS CHEMICAL CO.; PRODUCTS CORPORATION, LTD.; ROBARTES, LTD.; SALTRATES, LTD.; THE SCHOLL MANUFACTURING CO., LTD.; JAMES SINCLAIR & SON; SMART & CLARK, LTD.; SORBO RUBBER-SPONGE PRODUCTS, LTD.; VISCOSE DEVELOPMENT CO., LTD.; WHITE BAND MANUFACTURING CO., LTD.

Westminster Wisdom.

By the "C. & D." Parliamentary Representative.

Government Investments.

Questions asked in the House of Commons on June 13 brought replies that the dividends on the Government investment in the British Dyestuffs Corporation, Ltd., had produced 43,424*l.* 10*s.* 6*d.* and 49,693 2*s.* 8*d.* on the non-cumulative preference shares and ordinary shares respectively. No dividend has been received for 1920 on the holdings in the British Cellulose and Chemical Manufacturing Co., Ltd., or the Beet Sugar Co.

Table-water Duty.

In the Committee stage of the Finance Bill on June 21 Colonel Wedgwood moved that the tax on table waters be reduced one-half. He said that, owing to heavy taxation, a pint of mineral water costs more than a pint of beer. The figures showed that in 1920 the consumption of aërated waters was 10,000,000 gallons less than in 1919. Sir R. Horne said that, while the consumption of sweetened table waters had diminished, the consumption of unsweetened table waters had rather increased. Unsweetened waters were liable, he added, to be mixed with things of a stronger character. The tax on beer was heavier than the tax on table waters. He declined to accept the proposal, which would involve a loss of revenue of 500,000*l.* The motion was negatived.

Spirits Duty.

Major Kelly asked the Chancellor of the Exchequer whether he is aware that the heavy spirit duty proves a serious handicap to manufacturers using spirit for trade purposes and has caused a heavy falling-off in sales; that the duty at the present time is 74*s.* per gallon of new spirit, although the cost of the spirit itself is only 5*s.* 10*d.* per gallon; and that the duty in 1914 was only 14*s.* 9*d.*; and whether he can arrange for some concession to be made in the case of spirit used for trade purposes only, thus providing work for many workers, both male and female, in the perfumery and similar trades who are now unemployed on account of the stagnation of trade due to prohibitive selling prices on account of such duty.

Mr. Young, who replied, said he gathered that the member was asking that spirits used in the manufacture of perfumes and similar articles should receive the same treatment as that accorded under the law to spirits used in medical preparations or for scientific purposes. An amendment to this effect was moved in connection with the Finance Bill of last year, and was subsequently withdrawn, and he saw no reason to modify the decision then taken.

Dangerous Drugs Act Regulations.

On June 16, in the House of Commons, Captain Charles Craig moved that an address be presented to the King praying him to annul Regulation 4 of those made under the Dangerous Drugs Act. (See *C. & D.*, *May* 28, p. 85.) He referred to the hardships which would be inflicted on Irish farmers if this Regulation was not annulled. Laudanum is the principal drug, the sale of which would be interfered with, and it is required by farmers for the purpose of dosing horses and cattle in cases of colic. According to Regulation 4, laudanum can only be purchased on prescription, and therefore the custom of keeping laudanum ready for emergencies can no longer be permitted. There may not be a veterinary surgeon within many miles, and to go for him in such cases would cost much time and money. He suggested that the farmer should be given a certificate enabling him to obtain laudanum from the chemist as at present. Captain Craig also drew attention to the fact that druggists in Ireland have their business taken away by the Regulations because, being unable by law to dispense prescriptions, they could not supply laudanum, which is one of the principal items of their business. Sir John Baird, Under-Secretary of the Home Department, replied that the Departmental Committee has suggested that laudanum could be sold in a denatured form or else, "pending the discovery of some method of denaturing laudanum," by a certificate issued to farmers by the local police, entitling them to obtain laudanum. It is the intention of the Home Secretary to issue a form of certificate to the local police. This will be done in plenty of time before the Regulations take effect on September 1. In the case of druggists, he said, such legal opinion as had been taken was that "though the chemists and druggists are prohibited from compounding mixtures, they are entitled to dispense made-up prescriptions of something they have not made up themselves." Further, in reply to questions from Mr. Kiley, Sir John Baird said that the police authorities have not to state whether a man is entitled to be given laudanum. The certificates to be granted will be to the effect that the man is a *bonâ-fide* farmer or stockowner. Captain Craig then withdrew his motion.

The Dentists Bill.

The second reading of the Dentists Bill took place in the House of Lords on June 16. The Earl of Onslow, Parliamentary Secretary of the Ministry of Health, explained that the Bill is to give effect to certain of the recommendations of the Departmental Committee on the Dentists Act, 1878. After a year no person will be allowed to practise dentistry unless he is on the register, or is a duly qualified medical practitioner. Lord Greville said that he did not wish it to be thought that the Bill is altogether an agreed Bill. There are certain features in it to which the Ivory Cross Society and dental practitioners object to strongly, principally in regard to the wholesale admittance of unqualified practitioners. The Marquess of Salisbury, referring to the admission of unqualified practitioners *en bloc*, said it might be good tactics from a Parliamentary point of view, but it is extremely bad for the people who suffer from toothache. It is necessary, therefore, to consider closely the admission by a stroke of the pen of a number of practitioners, some of them little better than charlatans, to the full advantages, privileges, and dignities of dentists. Lord Knutsford said there is no proposal to admit unregistered men *en bloc*. Admission is limited to those who have been in good practice for five years and can bring evidence as to good character in that practice. He referred also to letters and circulars from a certain number of gentlemen, "more noisy than wise," who wish to keep out all the unqualified men from the register. The greater part of the dental work in this country is done by these unregistered men, and it would be a monstrous thing to prevent them from carrying on their practice altogether. The fact of a dentist being on the register means that the way in which he carries on his profession is controlled; that he is obliged to obey the ethics of the profession; that he cannot do this and he cannot do that; that he may not canvass; and that he may not advertise for work. The register, therefore, is not only a privilege; it is a controlling influence. The important point that we want to insist upon is that in future there should be no unregistered men operating in the dental profession anywhere in the country, and that every man in the profession shall be liable to control as to the way in which he carries on his work. If this Bill passes, you will increase the number of qualified men who will join; you will stop unregistered men from practising in the future; you will control the way in which the whole of the dentistry of the country is done; and you will secure better treatment for everybody. The Bill was committed to a Committee of the whole House.

In the House of Lords, on June 22, the Dentists Bill was considered in Committee. Lord Greville moved an amendment with the object of providing that separate registers should be kept of qualified and unqualified dentists, who should be separately described. The Earl of Onslow read a telegram which had been received from the British Dental Association, now in session at Bath, expressing unanimous support of the Bill as introduced. Lord Onslow opposed the amendment and pointed out that the object of the Bill was to bring all those practising dentistry under control and discipline. Also opposing the amendment, Lord Riddell remarked that the teeth of the people were in a bad state, and that was because dentistry was in an unsatisfactory condition. The amendment was negatived and the Bill passed the Committee stage.

Pharmaceutical Society of Ireland.

Council-meeting.

THE monthly meeting of the Council of the Pharmaceutical Society of Ireland was held at 67 Lower Mount Street, Dublin, on June 14. Dr. A. J. Barnes, Vice-President of the Society, occupied the chair, and the following members of the Council were also present: Dr. J. A. Walsh, Messrs. G. D. Beggs (Hon. Treasurer), G. A. McLean Lee, Charles E. Digges, A. H. Oliphant, S. Suffern, R. Blair, Victor E. Hanna, D. M. Watson, and John Smith.

The VICE-PRESIDENT apologised for the absence of the President of the Society (Mr. J. E. Connor, J.P.), who was representing the Society at the British Pharmaceutical Conference, the opening meeting of which was being held that day.

The Registrar (Mr. A. T. Ferrall) read a telegram from Mr. Fred Storey expressing his regret that he could not attend the meeting of the Council, and intimating that he was still engaged in London in endeavouring to secure a modification of the Dangerous Drugs Act Regulations in so far as they affected the druggists.

NEW MEMBER OF COUNCIL.

The VICE-PRESIDENT welcomed the new member of the Council, Mr. Suffern, of Belfast, who had been co-opted at the April meeting.

Mr. SUFFERN expressed his thanks.

PRELIMINARY REGISTRATION.

The following submitted certificates from the Intermediate Education Board and were admitted to Preliminary registration: Mr. T. B. Cahill, 52 Haddington Road, Dublin; Mr. Herbert W. Boyd, 69 Frankfort Avenue, Rathgar, Dublin; and Mr. Joseph Kevin Murray, Carrickmacross, co. Monaghan.

DEATHS.

The Registrar reported the deaths of Mr. Robert Duggan, M.P.S.I. (*C. & D.*, May 14, p. 35), Mr. Thomas McEver, Ph.C., and Mr. Michael S. Lalor, Ph.C.

AMENDMENTS OF REGULATIONS.

The Registrar submitted a communication from the Clerk of the Council, Dublin Castle, transmitting copies of an Order in Council approving of amendments of the Regulations dealing with the Pharmaceutical Licence and Preliminary examinations.

The amended Regulation dealing with the Pharmaceutical Licence examination provides that if the Pharmaceutical Society of Ireland are satisfied that the service as an Army compounder during the period 1914-1919 of a candidate for the examination is equivalent to any portion of the four years' service required by Regulation III., "it shall be lawful at their discretion to allow such Army service as equivalent to any portion of such prescribed service, and for that purpose the Committee from time to time appointed under Regulation XIII. shall have full power to examine any evidence as to such Army service submitted by the candidate, and at their discretion notwithstanding Regulations III. and XIII. to make or refuse any allowance under this Regulation and to instruct the Registrar accordingly."

The amended Regulation dealing with the Preliminary examination provides that the minimum pass percentages in algebra and geometry shall be raised from twenty to thirty.

DANGEROUS DRUGS ACT REGULATIONS.

Arising out of the Report of the Law Committee, Mr. SMITH, who had just returned from London, where he had gone with the President and Messrs. Culbert and Storey, of Belfast, in the interests of members and associates, made a statement in reference to the position up to date. They had, he said, been interviewing Irish members in the House of Commons, and Mr. W. Lindsay, M.P., had promised to do whatever was possible in the direction of easing the Irish position in connection with the Regulations.

MINERAL WATER COMPANY'S COMPLAINT.

The Law Committee submitted a letter from the Lonsdale Mineral Water Co., Lonsdale Street, Belfast, stating:

May we venture to place before you a grievance from which mineral-water firms suffer owing to a number of our local chemists and druggists filling our bottles with oil, drugs, disinfectants, etc. This is a practice dangerous to the general public, and although every care is taken in smelling each bottle before it is placed in the washing tank, there is always the danger of a bottle being refilled and sent out containing either oil or drugs. All stamped bottles are the property of the firm named thereon, and under no circumstances are persons entitled to use them for domestic purposes. In England any person found placing oil or disinfectant or any foreign substances in stamped mineral-water bottles are immediately prosecuted, and we would respectfully request you to bring this question up at your next meeting with the view of having it immediately stopped.

The Registrar was instructed to send copies of the letter to the various drug-trade associations in Ireland.

THE SASKATCHEWAN PHARMACY ACT.

The Law Committee also referred to the consideration of the Council a copy of the Saskatchewan Pharmacy Amendment Act, which had been sent from the Colonial Office.

The REGISTRAR stated that there are several interesting points in the Act. One is that "sale" includes advertising for sale or exposing or keeping for sale. The Act provided that the Province should be divided into electoral divisions for the purpose of election to the Council. Another matter provided by the Act is that an intending apprentice must, before he commenced his apprenticeship, have attained the age of fifteen years, and must produce satisfactory evidence of moral character to the Council and pass a Preliminary examination.

Summer Outings.

Eastbourne Pharmacists at Tunbridge Wells.

ON June 15 the Eastbourne Pharmacists' Association paid a visit to the Tunbridge Wells Association, and, after a delightful drive, Tunbridge Wells was reached about 4.30 P.M. Following tea, which was provided at the Spa Hotel, the President said that, as Mr. Hobbs had been unavoidably prevented from attending the Eastbourne Pharmacists' dinner, the members of the Association had decided to visit Tunbridge. Mr. A. E. Hobbs welcomed the visitors, and, after tea, Messrs. Hobbs and Bishop conducted them through Rusthall and the Happy Valley. It was proclaimed to have been an ideal outing.

West Ham Chemists Visit High Beech.

THE West Ham Association of Pharmacists held the annual summer outing on June 16, when a party numbering over fifty, of whom a good proportion were ladies, motored by charabancs through Woodford Bridge, Chigwell, Abridge, and Passingford Bridge to Ongar. Proceeding through North Weald and Epping to High Beech, high tea was provided at the King's Oak Hotel. During tea a collection was made for the Benevolent Fund stall at the Chemists' Exhibition. The party was afterwards photographed and orders taken for copies, the proceeds to be added to the collection. The party left for home at 9.30, having had an enjoyable outing.

South-West Londoners' Excursion.

THE annual outing of the South-West London Chemists' Association took place on June 8, when a charabanc trip was arranged. Over eighty members and friends left The Plough, Clapham, at 2 P.M., and spent a most enjoyable time. The route was via Kingston and Esher to Newlands Corner. Tea was taken at Abinger Hatch, which was reached about 5 P.M.; and in the evening a tennis tournament was arranged, the final heat being won by Miss Garton and Mr. Beech. The various places of interest in the immediate neighbourhood were afterwards visited, and the return journey commenced at 8.30 P.M., when lady members each received as a surprise a box of chocolates.

Conservation of Pharmaceutical Energy.

By F. G. Hines, Ph.C.

[*Abstract of Paper read before the Practice Section of the British Pharmaceutical Conference.*]

In deciding on the title of this brief paper I had this thought in my mind—that I would endeavour to apply natural laws to the problem that faces us. I assume that, certainly in my time, the practice of medicine is not likely to undergo such vast modification as to render obsolete our functions as pharmacists. Nor can I conceive that progress in the art of treating disease, the knowledge of sanitation and hygiene is likely to challenge our position—always given that we ourselves are adaptable to environment. Therefore one realises that a Pharmaceutical Society will continue to exist. That being so, the source of pharmaceutical energy should be that Society. And it follows that the vigour of the exponents of pharmacy, the extent of their pharmaceutical knowledge, their keenness for exploiting and improving upon pharmaceutical practices, will entirely depend upon the energy inspired into its units by that same Society. The first article of faith, therefore, must be our affirmation in the belief for the need of a strong parent body radiating pharmaceutical energy.

The consideration of the forms that energy should take certainly brings one up against such pressing problems as :

(1) The control of training or apprenticeship.

(2) The future of the "Major" and post-graduate work.

The Ministry of Health Committee, in their plans for the modernisation of the Major examination, have not set out from the right starting-point. My own conviction is that the "Major," as such, should be abolished, because as an incentive to post-graduate study it is sterile. In the light of our knowledge of the probable trend of professional education and occupation in the near future, it is self-evident that there is imperative necessity for appropriate systematic post-graduate study. This is the proper *datum* line from which to divert pharmaceutical education to its new environment. There should be only one Qualifying examination as a pivotal point, as organically connected with post-graduate work as it is with preliminary training. The post-graduate examination test should have simply and solely an honours value, the title remaining, as now, "pharmaceutical chemist." There should be neither compulsory subjects nor compulsory curriculum. The honours paper should comprise as wide a range of allied subjects in suitable sections as may be deemed desirable. For example : (1) Chemistry and pharmacognosy ; (2) the three new subjects suggested by the Committee—viz., physics in its relation to medicine, practical physiological chemistry, and microbiology ; (3) public health ; and (4) a special Army paper, set in conjunction with the Army authorities, with such other subjects as may be usefully added by the Council from time to time—as, for instance, accountancy as applied to a chemist's business, a special course with reference to European and Tropical pharmacy, and so forth.

The whole subject affords such a unique and valuable opportunity for widening the outlook and the training of the merely qualified that I venture to hope that the Committee may be induced to reconsider the question and recast the scheme according to the foregoing principles. There should be no apparent breach of continuity such as exists to-day. The old conception of the "Minor" and the "Major," which served its turn under conditions now extinct or obsolescent, is entirely played out. The vital need of our time is to instil the suggestion and inculcate the doctrine that no one should be content or should be expected to stop dead at the Qualifying examination, and so forfeit, or be denied, an outlet for cultural, professional, and economic progress. It should be so ordered as a natural sequence of events in the educational development of the pharmacist that qualification should be only the "condition precedent" to specialisation in one or other of the subjects in the honours section, according to the vocational projects or prospects of the post-graduate student. This is my reading of the signs of the times and of the measures which, in my judgment, are essential for the adequate technical and professional adaptation of the pharmacist to the service requirements of the immediate future.

My suggestion is that the Conference should at this juncture boldly affirm that, and send a suitable resolution not only to the Council of the Society but also to all the local associations throughout Great Britain, appealing to them to interest themselves in a higher pharmaceutical standard of education and research.

Association Affairs.

Devon.—A meeting of the Devon Pharmaceutical Association was held at Exeter on June 15, Mr. P. F. Rowsell (President) in the chair. It was resolved to hold the annual meeting at Exeter on July 7. Votes of thanks were passed to the secretaries and to Mr. Paul Tighe, who was responsible for the musical programme at the annual dinner. Mrs. A. C. Milton and Mrs. F. Southerden, hon. district secretaries for the Chemists' Exhibition Benevolent Fund Stall, reported having sent to headquarters articles and cash to the value of over 20*l*. The hon. secretaries were asked to co-operate with a ladies' committee in organising Benevolent Fund work in the district on a more permanent basis. A discussion on the revised Dangerous Drugs Act Regulations followed, and it was agreed that the Regulations are not yet satisfactory. The Council scheme for the future local organisation of the Society was discussed, and further consideration was adjourned. In view of cases where camphorated oil in plain bottles has been taken for castor oil a resolution was passed urging chemists to supply camphorated oil in poison-bottles only. The secretary was instructed to send a copy of this resolution to local chemists and to the Retail Pharmacists' Union. The first meeting of the Devon Branch (No. 16) of the Retail Pharmacists' Union was held at Exeter on June 15, Mr. P. F. Rowsell presiding. After discussing and adopting rules it was resolved to elect the executive committee on July 7.

Hospital Pharmacists.—The Pharmacy Unit of the Incorporated Association of Hospital Officers held their second annual meeting on June 10, Mr. F. A. Hocking (chairman) presiding. The secretary's report was adopted. The Committee is in communication with the Council of the Pharmaceutical Society with regard to the revised regulations of the Pharmaceutical Society for the Qualifying examination. The following were elected to form the Committee for the ensuing year : Misses Jacob, Loader, and Sproule, Messrs. E. A. Andrews, E. B. Fairweather, F. A. Hocking, F. C. Langley, J. Langford Moore, J. Wycliffe Peck, R. Sandy, F. W. Searle, and J. B. Elgar, hon. secretary.

Southend-on-Sea.—A meeting of the Southend-on-Sea Association of Pharmacists was held on June 9, the President (Mr. F. H. King) in the chair. It was agreed to write the Pharmaceutical Society stating that the Association is willing to become a local branch of the Society, suggesting also that all present associates be eligible for hon. membership of the branch, and a *per capita* grant be made by the Society to the branch of at least 5*s*. per head per year. A vote of thanks was accorded to Mrs. King, Mrs. Cowe, and the President for their work in making the whist-drive a financial as well as social success. Mr. McLaren stated that Dr. Holthusen had written suggesting July 6 as the date for the Doctors *v.* Chemists cricket match. This date was confirmed, and the arrangements were left in the hands of Mr. McLaren. It was decided to abandon the idea of a summer outing owing to the high cost of the hire of a charabanc. The President and secretary of the East Anglian Federation were elected *ex-officio* members of the Association. A discussion then took place on the cutting of protected articles.



Trade Conditions in India.



India, writes a correspondent, has, in common with every other country in the world, been suffering from acute trade depression, and when one comes to analyse present conditions of business in India (especially the drug-trade), and the causes of this depression, one becomes confused at the apparently hopeless tangle of contributing causes. The essential factor of the depression is the breakdown of the purchasing power of Europe in consequence of the war, but there are also many other local factors which have contributed to the existing depression, and one hesitates to say which is cause and which is effect. Among these factors may be mentioned fluctuations in exchange, heavy stocks in the country, decrease in demand, and Mr. Gandhi's scheme of "non co-operation." Still, it is possible to go into the matter now with a feeling of optimism. The worst seems to be over, and better times are in sight, as most export houses in England are aware from the reports of their representatives. Consignments lying with banks and in bonded warehouses are being gradually taken up as supplies in the market run short, and long-outstanding bills are being paid. Best of all, in spite of unfavourable exchange and increased import duty into India, indents are being forwarded to this side, but there are still enormous stocks of drugs and chemicals in India, and conditions cannot revert to normal until these stocks are exhausted.

The Drop in Exchange.

To go into the points mentioned, it need hardly be stated that the drop in exchange has been caused by the fall in exports due to decreased purchasing power in Europe. This has the effect of increasing the landed costs of all imports and goods ordered when exchange stood at 2*s.* or over per rupee, and, owing to delay in shipment, arrived in India when exchange was much lower, and were paid for (by some firms) at much higher prices than was anticipated when orders were placed. It is almost entirely due to the question of exchange that so many bills have remained unpaid. Some dealers go so far as to refuse all drafts drawn at a lower rupee value than 2*s.*, and some English firms have met these dealers by accepting payment at 2*s.* per rupee, thus incurring loss to themselves and causing other firms difficulty in obtaining payment of outstanding bills. It is not always realised in England that export trade is practically cash business. Bills are paid in many cases before the goods are received, and if drafts are dishonoured by the indentors the goods have to be cleared and stored by the different banks, and these goods remain unsold until the exporting house has managed to dispose of them, even at a sacrifice, to other buyers.

Heavy Stocks of Goods.

The second factor—heavy stocks—is attributable to several causes. It has been due to a great extent to injudicious buying. During the war years, dealers were able to dispose of large quantities of goods, and after the war, based their orders on their consumption or sales during the war years. Practically every firm did the same, with the result that the Indian market quickly became flooded. Favourable exchange in 1919 and the beginning of 1920 was also an incentive to heavy buying, but, as stated above, many of these goods were delayed, and shipments came through later for quantities in excess of buyer's requirements at prices much in advance of the anticipated cost. Another reason which accounts for heavy stocks, and which dates back to the years of the war, is that during hostilities it was customary to wait twelve to eighteen months for supplies, and even then quantities were greatly cut down. To secure sufficient supplies, indentors therefore sent duplicate orders to several houses, hoping by this means to secure their requirements. When the war ended and freight became easier, all these duplicate orders were shipped, and this helped to flood the market. Several English houses were greatly to blame in that when shipping conditions became easier they shipped out everything they had on their books without reference to buyers in India, and as a natural consequence many drafts were refused and large quantities of goods were cleared and stored by the banks. One firm was particularly active in this respect, and even now the market is flooded with its products, and the banks still hold many shipments not taken up.

Government Purchases.

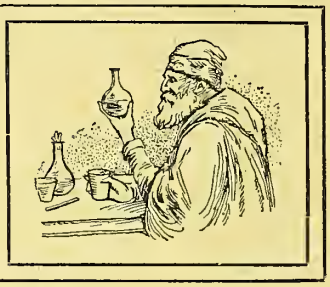
The third factor—decrease in demand in India—is to some extent due to the falling-off of Government orders. During the war the Indian Government purchased the bulk of their requirements in India, and Indian dealers imported largely each year in anticipation of Government demands. At the end of the war the Government ceased buying, and indentors who had imported in anticipation found themselves with heavy stocks on their hands and with no chance of disposing of them. The following year the greater part of Government requirements was purchased direct from England through the India Office. Similarly many private concerns who, during the war, had purchased their requirements in India, reverted to their pre-war practice of importing direct, and thus another channel for the disposal of stocks was closed. The Commission appointed by Government under the name of the "Stores Supply Committee" has recently published a report, and in this report it is strongly recommended that in future Government purchases, whenever possible, should be made in India. Goods of Indian manufacture, when quality is equal to imported goods, are to be purchased, price being more or less a secondary consideration. Similarly, imported goods of foreign manufacture are to be taken over when necessary, in order to obviate direct importation. It is hoped that this procedure will improve internal trade.

The Political Factor.

The fourth factor—Mr. Gandhi's scheme of "non co-operation"—is still in its infancy, and it is impossible to state what the effect will be. It amounts to boycott of all foreign goods. The Indian Government allow him complete liberty to carry on his propaganda, apparently on the principle that if allowed sufficient rope he will hang himself in time. In spite of this menace, conditions seem brighter as regards internal trade, and as people must have medicines, conditions in India will improve; but for the present unfavourable exchange and increased import duty, especially on spirits and spirituous preparations, will improve the sale of goods manufactured in India, to the detriment of British exporters. Finally, internal trade is improving, and this later on must reflect upon imports, and as the consumption of drugs in India is increasing annually, conditions should become, in the course of the next few months, much more satisfactory, both to the Indian manufacturer and the English exporter.



Germany's Export Trade in Chemicals.



The German Government have recently resumed the publication of the statistical reports dealing with overseas trade, and the figures for the period between January 1 and September 30, 1920, are now available. These figures, which deal with a period during which Germany was making substantial progress in the direction of regaining her former importance as an industrial country, offer many points of interest, and in the following article we refer only to data which concern chemical and pharmaceutical products. It is well to bear in mind that the inflated values do not permit of any reliable comparison with the parallel pre-war figures, therefore for the sake of comparison it is advisable to adopt the amounts imported and exported as the standard in forming a conclusion as to the relative positions of this important branch of Germany's industrial activities prior to and after the war. German exports of chemical and pharmaceutical products, including dyestuffs, varnishes, essential oils, artificial perfumes, chemical manures, and explosives, totalled 2,150,000 tons for the above period, representing a value of 6,587,400,000 marks (nominally 329,370,000*l.*), while the imports during the same period of nine months reached a total of only 186,000 tons, so that exports of this class of products exceeded the imports by tenfold. In all the figures quoted the amounts to be delivered as reparation to the Allies under the Peace Treaty have been deducted, so that the data given refer to the actual trade turnover in these products.

Turning to a consideration of the value represented by the principal German chemical products, we find that the category including chemical raw products, acids and salts, figures among the exports to the value of 3,271,000,000 marks, followed by dyes and dyestuffs with a value of 2,570,000,000 marks; while the exports of chemical and pharmaceutical preparations totalled 441,000,000 marks.

In order to render a comparison of the German exports of certain chemicals during the first nine months of the past year with those prior to the war, we quote in brackets against each class the corresponding official figures for the last peace year—1913—as stated in the Statistical Annual for the German Empire, Vol. 35, 1914, issued by the Imperial Statistical Bureau. The latter figures, however, give the total amounts and values for the whole of 1913.

—	Jan. to Sept. 1920		1913	
	Tons	Marks	Tons	Marks
Aniline and other coal-tar dyes	13,121	1,419,000,000	64,288	142,079,000
Indigo, natural and artificial	5,074	369,000,000	33,353	53,323,000
Alizarine, and alizarine dyes from anthracene	2,628	235,000,000	11,040	21,573,000
Alkaloids, and alkaloidal salts ...	60	102,000,000	113	7,132,000
Prepared medicines and other pharmaceutical products...	749	143,000,000	2,508	23,019,000

Proceeding to a consideration of the destination of the more important German chemicals, we find that the following countries are represented by the amounts quoted against each. In the following table only the amounts are quoted, and as a basis of comparison the total amounts exported during the year 1913, the respective values being omitted, as they do not offer any standard of comparison.

	Jan.-Sept. 1920 Tons	1913 Tons
Aniline and coal-tar dyes—		
Czecho-Slovakia	2,058	—
East Asia	1,185	—
Italy	1,170	4,097
Holland	957	1,365
Sweden	844	901
Great Britain	781	11,016
Belgium	756	2,509
France	638	1,382
Indigo, natural and synthetic—		
East Asia	2,979	—
Holland	396	611
South-East Asia ...	354	—
Italy	286	662
Alizarine and alizarine dyes from anthracene—		
South-East Asia ...	1,204	—
Holland	206	325
France	192	222
Great Britain	172	2,657
Italy	170	189
United States of America...	138	2,656
Other countries	542	—
Prepared medicines and pharmaceutical products—		
Switzerland	75	94
Holland	67	—
South America	54	—
Czecho-Slovakia	43	—
Sweden	39	—
Spain	37	—
Norway	24	—
Italy	23	95
Denmark	22	—
Finland	13	—
Other countries	169	—
Alkaloids and alkaloidal salts—		
United States of America	10	44
Switzerland	10	—
Holland	7	—
Great Britain	6	13
East Asia	6	—
South America	3	—
Sweden	2	—
Italy	2	—
Other countries	10	—

Where no amounts are given for 1913 this indicates that the amount of the class of goods exported did not reach a value of 500,000 marks.)

In conclusion, it may be mentioned that as a purchaser for a single group of chemical products the United States of America head the list with imports of German potassium sulphate, potassium and magnesium sulphate, and potassium chloride, aggregating 68,246 tons, valued at 434,000,000 marks, and of chemical manures to the extent of 168,065 tons, value 276,000,000 marks. For the first group Holland and Great Britain follow very closely, the respective figures for Great Britain being 22,676 tons, valued at 144,000,000 marks, and this group also represents Great Britain's principal purchases, as far as value is concerned, for any single group of German chemical exports. The United States of America were Germany's best customers for chemical products, importing to a total value of 850,000,000 marks, while chemical exports to Great Britain aggregated 292,000,000 marks, followed by Belgium (195,000,000 marks), Italy (169,000,000 marks),

and France (159,000,000 marks). Of the neutral countries Holland heads the list with purchases totalling 700,000,000 marks, of which 360,000,000 marks are represented by potassium salts and manures; after which we find the new destinations credited with purchases amounting to 407,000,000 marks in the case of Czecho-Slovakia, which proved to be Germany's largest purchaser of aniline dyes (224,000,000 marks), and "East Asia," with 377,000,000 marks, the greater portion of which consisted of purchases of indigo to the value of 216,000,000 marks. These figures, particularly those relating to dyestuffs, deserve attention, as they illustrate the active steps taken by Germany to regain her former position in the world's markets, and it will be extremely interesting to compare the further progress realised during the eight months that have elapsed since the period to which the above figures refer, so soon as the official figures are available. It is anticipated, however, that the exports for the first half of this year will show a considerable decline compared with the corresponding period of 1920. The exportation of chemicals continues under the control of the "Aussenhandelstelle Chemie" (Export Bureau) in Berlin, which was established in June 1919 as an organisation for the chemical industry to be conducted on strictly business lines. It is subdivided into sections corresponding to the chief divisions of chemical industry; it issues licences for importing and exporting chemical products and fixes minimum prices for exported goods.

Dominican Lime Industry.

It is with some satisfaction that we learn from the "Agricultural News" that the cultivation of the lime (*Citrus medica*, var. *acida*) is being taken up with energy in Dominica. It seems that so far back as 1913 a lime experiment station was started. The expenditure for the first five years exceeded the receipts, but it was expected that this would soon be reversed. The trees were originally planted 12 ft. by 12 ft., but on the plots these were thinned to 24 ft. by 24 ft. The removal of three trees out of every four appeared to be a drastic measure, but the results fully justified the work. The effect of drainage and manure on the health, growth, and yield of the trees was remarkable. The area now under bearing limes, and young trees just commencing to bear, is seven and a-half acres. To this must be added five acres in course of being established, and another three acres will be planted shortly, which will bring the total under lime cultivation to over fifteen acres. There is also the possibility of further additions in the future. The crop during the twelve months ended March 31 was 649 barrels of fruit. It is stated that the matter of wind breaks is well understood in Dominica, and a very large part of the area under limes is protected from the wind by the natural conformation of the land. Details are given with regard to top-dressing of the land, manuring, mulching, green-dressing, etc. In Dominica owing, it is stated, to the broken nature of the country, there are no large stretches of cultivation; the estimated acreage under limes is made up of numerous small areas amounting to about 6,000 acres. With reference to the yield of limes, the following statement is made: "Although lime cultivation was taken up in Dominica over sixty years ago, and developed with considerable energy during the past twenty-five years, the possible annual yield of fruit per tree over a series of years in the best positions, and under good handling, does not appear to be known, nor does this point excite much interest compared with the returns of orange and grape-fruit trees; the best yield of lime trees recorded per acre in Dominica appears low. The average crop of orange trees under good cultivation is from 800 lb. to 1,000 lb. per tree, while the best recorded crop of limes is 200 barrels per acre, which, allowing that the trees are spaced at 20 ft., gives a yield of only 320 lb. of fruit per tree. In this connection it has to be remembered that the proportion of juice from a given weight is higher in the case of the lime than the orange. Still, it is evident that lime trees in good positions, properly spaced and given a complete manure annually, are capable of giving a higher return than 200 barrels of fruit per acre. On estates which are regarded as doing well, a crop of 150 barrels of fruit per acre is considered good. There is, however, a good deal of cultivation on which the return is below 100 barrels of limes per acre." Referring to the variation of cultural conditions affected by the position of the estate, the writer says: "It is obvious that a lime estate in the mountains at an elevation of 1,800 to 2,000 feet can hardly be expected to produce on the same lines as well-sheltered estates located in the hot, moist valleys near to the coast, but by a general improvement of cultured conditions the average yield of plantations could be raised considerably above what it is at present." Further information regarding the lime industry in Dominica is given in the annual report of the Agricultural Department for 1917, where it is stated that "the progress made in the last twelve years has been very gratifying. In 1905 the total value of lime products exported amounted to 36,952*l.* and now exceeds 200,000*l.* The crop in 1917, calculated in barrels of the capacity of 4.55 cubic feet, rose to 396,209 barrels. This is the largest crop yet obtained, exceeding the previous largest by 5,000 barrels. Calculated in barrels of fruit, of the capacity given above, the crop of limes for the last five years may be seen in the following statement: 1913, 391,000 barrels; 1914, 388,000 barrels; 1915, 390,000 barrels; 1916, 384,000 barrels; 1917, 396,000 barrels. The export of raw juice, which has been steadily increasing, has now reached a "record" figure. As regards concentrated juice, there is little to comment upon, except on details of manufacture, the report under notice remarking "that the production of clean juice of a moderate concentration is steadily increasing in quantity. It is to be hoped that soon nothing but juice of a high quality will be made, even on the smallest estates." The following statement gives the quantity of raw and concentrated just exported from Dominica in five years:—

Year	Raw Juice. Gallons	Concentrated Juice. Gallons
1913	336,728	158,974
1914	379,875	148,179
1915	777,064	153,292
1916	574,109	152,603
1917	778,133	149,775

Citrate of lime, most of which goes to the United Kingdom, fell off one-half compared with the previous year, due principally to the demand for raw juice.

Lime oils, the production of which forms an important part of the industry of the island, reached about the same figure in quantity as in recent years, but the high prices obtained gave a statistical value about double. The increase in the value of all lime products exported, compared with the previous year, was 32,547*l.* The quantity and value of the export of these products are shown in the following table:

		Quantity	Value
Concentrated lime juice ...	gal.	149,775	£58,366
Raw lime juice...	,,	778,133	65,546
Raw juice cordial	,,	469	103
Green limes	brls.	41,243	47,734
Pickled limes	,,	350	350
Citrate of lime	cwt.	1,960	6,669
Essential oil of limes	gal.	5,139	17,900
Otto of limes	,,	1,143	8,231
			£204,899

The minor products of Dominica, with some slight fluctuations, appear to be holding their own, of which the following table shows the quantity and value exported in 1917: Orange oil, 321 gallons (1,035*l.*); bay oil, 120 gallons (508*l.*); bay leaves, 784 cwt. (732*l.*); coconuts, 133,234 cwt. (416*l.*). Great difficulty has been experienced during the last few years in procuring imported manures, and the importance of obtaining potash in any special manures used is emphasised.

Trade Report.

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling and the like. Qualities of chemicals, drugs, oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

42 Cannon Street, E.C. 4, June 23.

The unexpected continuation of the coal-miners' strike must be regarded as a fresh setback to industry in general, but it is interesting to know that Mr. Hodges has hinted at some action "to bring it to an end." In the Mincing Lane produce markets the previous apathetic conditions prevail, but at the same time there is a better undertone among holders of produce, many of whom feel that prices have touched the bottom, and that the low level of many items is not now justifiable, particularly as the forced liquidation of stocks has to a great extent ceased and the financial pressure eased somewhat. Few changes are reported in the crude drug section. Senega is cheaper on the spot. Japanese refined camphor is scarce and still in upward tendency. Menthol is dull and easy. Quinine is almost exhausted in secondhands, but the makers carry large stocks. Agar-agar is held for a further advance. Isinglass met with an improved demand at auction at full to higher prices. Cocoa butter is 1*d.* dearer. Turpentine has been irregular but higher on balance. Shellac is 10*s.* lower on spot for standard TN, and balsam tolu is easier. The spice markets continue dull and uninteresting in the absence of adequate export demand.

Higher	Firmer	Easier	Lower
Agar-agar	Bergamot oil	Aloin	Ammon. bromide
Almonds	Caffeine, pure	Ba'sam tolu	Calamus oil
Cocoa butter	Glucose	Copper sulphate	Lavender oil (Fr.)
Isinglass		Hydroquinone	Otto of rose (1921
Turpentine	Steadier	Lemongrass oil	Patchouli oil
		Peppermint oil (Amer.)	Phenacetin
	Betanaphthol	Pyrogallic acid	Phenazone
	Epsom salts	Sodium diethylbarb.	Phenolphthalein
	Calcium lactate	Tartaric acid	Potash bromide
		Vanillin	Salol
			Senega
			Serpentary
			Shellac
			Tannic acid
			Terpineol
			Titanium, white

Cablegram.

New York, June 22.—Business is fair. Peppermint oil in tins has declined to $2.25 and short buchu leaves to $1.00. Mercury is lower at $46.00 per flask; formaldehyde has declined to 13½c. and serpentary to 90c. per lb. Antipyrin has been reduced to $1.90 and citric acid to 46c. per lb.

Crude Drugs, etc.

Agar-agar.—Business in No. 1 Kobe has been done at 2*s.* 3*d.* per lb., the value of No. 2 being 2*s.* 1*d.* In view of the small stocks holders are now asking 2*s.* 6*d.* for No. 1 and 2*s.* 3*d.* for No. 2. Sales last week included 25 bales at 1*s.* 10½*d.* c.i.f. for No. 1.

Anethol of Continental make is being offered cheaper at 4*s.* 6*d.* per lb. for 20° to 22°, delivered.

Balsams.—*Peru* is steady, with practically none offered on spot; some on the way is offered at 8*s.* landed. *Copaiba* is unchanged at 2*s.* per lb. *Tolu* has been sold at 1*s.* 9*d.*, but the value is about 1*s.* 7*d.* to 1*s.* 7½*d.*

Camphor (Refined) remains firm and scarce, with sellers of Japanese 2½ lb. slabs asking 3*s.* 11*d.* and Chinese 3*s.* 9*d.* on the spot. Sellers of Chinese for May-June quote 3*s.* 7*d.*, and June-August 3*s.* 5*d.* per lb. c.i.f.

Cascara Sagrada.—Rather lower prices have been quoted to arrive, and on the spot values range from about 85*s.* to 90*s.* per cwt.

Castor Oil.—The quotation given for French medicinal oil last week refers to one instance only, more general prices being from 66*s.* to 67*s.* 6*d.* per cwt. in barrels and 74*s.* to 75*s.* in cases of 40 kilos. each, net, ex wharf, London, packages free.

Cocoa Butter has advanced a further 1*d.* per lb to 2*s.* 1*d.* for prime brands of English in not less than 1-ton lots.

Cod-liver Oil.—Our Bergen correspondent writes on June 14 that the cod-liver oil market is quiet, with sellers still maintaining 100*s.* to 105*s.* per barrel c.i.f. London for finest new Lofoten medicinal oil. At Finmarken the fishery continued last week, but with a poor result. The total output of all the Norwegian cod-fisheries, compared with that of the previous years, is as follows :

	Catch of cod (millions)	Steam-refined cod-liver oil (hectol.)	Livers for crude oil (hectol.)
To June 11, 1921 ...	38.400	56.621	12.688
„ „ 12, 1920 ...	36.600	54.739	6.181
„ „ 14, 1919 ...	29.000	35.025	4.992
„ „ 15, 1918 ...	23.000	19.782	16.142
„ „ 16, 1917 ...	26.000	34.833	5.408
„ „ 10, 1916 ...	48.600	56.456	5.089

The fishery will shortly be closed. In London, market remains quiet, with prices showing some reaction, finest new Lofoten non-freezing oil offering at 90*s.* to 100*s.* per barrel c.i.f.

Damiana Leaves of good green quality offered at 11½*d.* per lb.

Egg Products are dull, with sellers of prime Chinese liquid hen yolk at 130*s.* per cwt., and for June-August shipment the value is 85*s.* per cwt. c.i.f. Dried yolk is 5*d.* and sprayed whole egg 1*s.*; Native dried whole is 6*d.*—all spot. Prime hen albumen has been sold at 2*s.* 9*d.* to 2*s.* 10*d.* per lb. on the spot, and 2*s.* 9*d.* per lb. c.i.f. is quoted for June-August shipment. At auction 150 cases Chinese albumen offered and 30 sold at from 2*s.* 3½*d.* to 2*s.* 6*d.* per lb.

Ergot.—The asking price of Spanish or Portuguese remains at 6*s.* per lb. on the spot. Offers of new-crop Spanish are expected in about a fortnight.

Farina continues slow of sale, the spot price of No. 1 Japanese being nominal, and for June-August shipment there are buyers at 19*s.* 6*d.* c.i.f. Dutch on the spot is 18*s.* 6*d.*, and June-July shipment 17*s.* 6*d.* c.i.f.

Galls.—Sellers of Chinese quote 90*s.* per cwt. for plum-shaped and 80*s.* for ordinary on the spot; to arrive, 82*s.* 6*d.* and 62*s.* 6*d.* c.i.f. is quoted respectively.

Glucose is firmer, guaranteed water-white for June delivery offering at 32*s.* 6*d.* per cwt. duty paid, landed terms.

Ground-nut Oil.—Finest French emulsifiable quality is firm at 67*s.* 6*d.* per cwt. net ex wharf London, in barrels, for spot delivery.

Gum Acacia has sold rather more freely of late. F.a.q. Sudan sorts offer at 42*s.* 6*d.* to 45*s.* and cleaned at 47*s.* 6*d.*

Heliotropine is unchanged on the spot at about 10*s.* per lb.

Hydrastis.—Spot holders quote 27*s.* 6*d.* per lb.

Isinglass.—At auction an improved demand was shown for the 569 packages offered, and the bulk sold at full to higher prices for most descriptions.

Linseed Oil.—The position is getting rather interesting, chiefly by reason of American influences. There has been a very keen demand for Argentine seed on American account, a certain number of cargoes having been fixed for near shipment, and this explains the persistent advance in raw material, which has been sold up to about 19*l.* 15*s.* c.i.f. U.K. ports. The price of Calcutta seed has advanced in sympathy. This sufficiently indicates the tendency of linseed oil to go higher. The London spot price closes at 35*l.* naked and Hull at 33*l.* 10*s.* naked.

Magnesium.—Home makers quote 6*s.* to 6*s.* 6*d.* per lb., but Continental offers are being made at 5*s.* 6*d.* to 5*s.* 9*d.* per lb.

MENTHOL is unchanged, the spot values of Kobayashi-Suzuki being 19*s.* to 19*s.* 6*d.* per lb., and June-July shipment 17*s.* 6*d.* c.i.f.

MERCURY has remained quite lifeless, and indications point, if anything, to further concessions. The leading importing firm recently dropped their price for Spanish to 11*l.* per bottle, and there are plenty of sellers at between this figure and 10*l.* 15*s.*, this chiefly referring to Italian. Export business is still practically in abeyance. A good quantity arrived recently in New York from the East, it being reported that this mercury was originally acquired by Japan and China. Moreover, some 300 bottles reached New York from France, while it is said that further consignments have been made from Italy for the same destination, which should now be available. Italian mercury is said to be shipped for storage in bond. The American market has been weakened by this excess of foreign supplies, but it is chiefly nominal.

OLIVE OIL.—Owing to further arrivals, finest French "extra cream" is now obtainable a little more freely at from 12*s.* 6*d.* to 13*s.* per gallon net, in barrels, ex wharf London. *Lucca* in cases of ½ and 1 gallon tins is quoted at 16*s.* 6*d.* per gallon net ex wharf.

OPIUM.—The London market remains without business, the nominal value of good Turkey druggists' quality being 12*s.* per lb.

SAFFRON.—B.P. is firm on the spot, with finest Valencia offering at 72*s.* 6*d.* per lb. and lower grades down to 60*s.*

SASSAFRAS BARK is selling at from 2*s.* 2*d.* to 2*s.* 3*d.* per lb. on the spot.

SENEGA is cheaper, with spot sellers at 3*s.* per lb.

SERPENTARY.—A limited quantity is obtainable on the spot at about 7*s.* 6*d.* per lb.

SHELLAC has been quiet throughout, and the spot price of usual standard TN Orange quality has declined a further 10*s.* per cwt. to 360*s.*; fine lemon is unchanged at 430*s.*; fine second orange is 405*s.*; RLI, 390*s.*; and AC free garnet, 300*s.* Futures are lower, the sales comprising August at 260*s.* to 230*s.* to 237*s.* 6*d.*, and October at 230*s.*

SOY.—The value of good Chinese is about 3*s.* 10½*d.* per gallon, duty paid.

TERPINEOL is quiet at 1*s.* 9*d.* per lb. on the spot for good-quality Dutch.

TITANIUM WHITE.—Demand is slow, and the price of standard quality is lower at 68*l.*, although the quotation for extra quality has been retained at 100*l.* per ton delivered U.K.

TURPENTINE has fluctuated considerably, but on balance is dearer, this being due to a better demand and stronger American cable advices. It is not easy to buy, as the warehouse stocks are steadily dwindling and threaten to place consumers in a tight corner in the near future. The recovery from the recent lowest is fairly substantial and the market has every appearance of going higher. Deliveries from week to week are comparatively large. Forward positions cannot be quoted accurately for the present in the absence of business. At one period of the week the London spot market touched 76*s.*, but subsequently advanced to 82*s.*

VANILLIN is quoted a shade easier at from 28*s.* 6*d.* to 29*s.* per lb. from dealers.

Seeds and Spices.

ALMONDS are firm to dearer, Morocco on the spot having advanced 2*s.* 6*d.* per cwt., and forward prices for Bari and Majorca are slightly higher. Valencias are again higher, as a recent shipment has turned out poor. Jordans are scarce on the spot and new-crop supplies must be awaited.

CARAWAY SEED is quiet at from 27*s.* to 29*s.* per cwt. for fair to good Dutch on the spot.

CLOVES.—Zanzibar continue slow of sale, with spot sellers at 9*d.* per lb., and for June-July shipment 8*d.* c.i.f. is quoted. Holders of grades below fair are anxious to clear. The London first-hand stock is 4,948 bales, against 20,690 bales and 18,500 bales in 1920 and 1919 respectively.

CORIANDER SEED.—Sound 1920 Morocco crop is offered at 20*s.* per cwt., with wormy offering at from 8*s.* 6*d.* to 11*s.*

CUMIN SEED is steady at from 28*s.* to 30*s.* for good, down to 23*s.* 6*d.* to 24*s.* for common.

DILL SEED is quoted at 24*s.* 6*d.* per cwt. on the spot for East Indian.

FENNEL SEED is slow of sale at 35*s.* per cwt. on the spot.

FENUGREEK SEED is slow of sale at from 8*s.* 9*d.* to 9*s.* 3*d.* per cwt. for dull to fair Morocco.

PEPPER.—*Black* Singapore continues quiet and a trifle easier, with spot sales of fair at 3⅜*d.* per lb.; June-August and July-September shipments have sellers at 3⅞*d.* c.i.f. Lampong is 4½*d.*, Tellicherry 4½*d.*, and Aleppy 4¼*d.* per lb. on the spot. *White* Muntok is steady at 9*d.*, and Singapore is 8¾*d.*, both spot. Muntok for June-August and July-September shipment has been sold at 8⅝*d.* c.i.f.

Essential Oils.

THE prices for Sicilian oils seem to fluctuate almost daily, but quotations for bergamot and orange are meantime quite firm. Contradictory opinions regarding the spot stocks of these articles are current; several importers, however, have very little to offer. Lemon oil is unchanged. Lemongrass and American peppermint are easier. Calamus oil has been sharply reduced, and French lavender and patchouli are cheaper. The 1921 Bulgarian otto of rose crop has been reduced in price.

ANISE, STAR, is quiet with sellers of "Red Ship," on the spot, at 1*s.* 11*d.* to 2*s.* For June-July shipment 2*s.* c.i.f. is quoted.

BERGAMOT is firmer for 37-39 l.a. at from 21*s.* 3*d.* to 23*s.* per lb. c.i.f. June-July shipment. On the spot from 23*s.* to 24*s.* is about the current quotation.

CALAMUS is lower on the spot, with sellers at 17*s.* 6*d.* per lb.

CAMPHOR.—Business is reported done at 115*s.* per cwt. c.i.f. from Holland for Japanese white in large drums. Spot quotations are unchanged at 125*s.* spot in large drums, 130*s.* in 100 lb. (about) drums, and 135*s.* in cases. Brown is said to be scarce, and quotations are about on a level with the white.

CARAWAY.—Dutch double rectified is obtainable on spot at 5*s.* 6*d.* per lb. for s.g. 0.910 in quantity. Smaller lots are correspondingly higher. Crude is quoted at 5*s.*

CASSIA is steadier on the spot at 3*s.* 10½*d.* per lb. for 80 to 85 c.a.

CEDARWOOD is unchanged on the spot at 2*s.* 11*d.* per lb.

CHAMOMILE.—English distillers are quoting 110*s.* per lb. for white.

CINNAMON LEAF.—Ceylon leaf is unchanged at 4½*d.* to 4¾*d.* per oz. for spot, according to quantity and holder.

CITRONELLA is not in much demand at 1*s.* 3¼*d.* to 1*s.* 3½*d.* per lb. for Ceylon on the spot.

DILL.—Dutch distilled from East Indian seed is obtainable at 18*s.* per lb. for spot.

EUCALYPTUS.—Spot holders of 70 to 75 per cent. cineol quote at from 1*s.* 10*d.* to 2*s.* per lb.

GINGERGRASS.—"Insoluble" is quiet around 12*s.* per lb. for pots on the spot.

LAVENDER.—French is cheaper on the spot at from 20*s.* to 26*s.* per lb., according to ester, the latter being quoted for good oil testing 36 to 38 per cent. English distillers' price for Mitcham lavender is 260*s.* per lb.

LEMON is unchanged at from 3*s.* to 3*s.* 3*d.* per lb. spot. Forward quotations are higher, about 3*s.* 5*d.* to 3*s.* 7*d.* c.i.f. being the general figures.

LEMONGRASS.—Cochin on the spot is easier at 3*d.* to 3½*d.* per oz., with forward offers at 2¾*d.* c.i.f. August-October shipment.

NEROLI.—An important transaction took place at Grasse recently, when for quite ordinary quality of neroli oil upwards of 7,000 fr. per kilo. was paid.

ORANGE.—Sicilian sweet, which was offered at about 9*s.* c.i.f., has improved, and bids of 9*s.* 6*d.* c.i.f. are reported refused. To come forward prices are now quoted at from 10*s.* 6*d.* to 11*s.* c.i.f. Some importers are without spot goods, but from 11*s.* 6*d.* to 12*s.* 6*d.* is about the value. West Indian is not too plentiful on the spot, and prices are firm.

OTTO OF ROSE.—Imports of Bulgarian otto of rose into Germany recently have been on a considerable scale,

upwards of 5,000 oz. being taken in one consignment. Much of this oil may be utilised as the basis for synthetic perfumes. For the 1920 Bulgarian otto 50*s.* per oz. is the spot quotation for a good brand, but orders for the 1921 crop will be accepted at 42*s.* per oz. in quantity.

Patchouli is lower at from 45*s.* per lb. in 20-lb. tins to 50*s.* for smaller lots.

Peppermint.—American tin oil is a shade easier on the spot at from 13*s.* to 13*s.* 6*d.* per lb., according to seller. English distillers' quotation for Mitcham, double rectified, is 110*s.* per lb.

Sandalwood.—Mysore Government B.P. oil is quoted at 37*s.* 6*d.* per lb. in 5-case lots. East Indian B.P. oil (92 to 94 per cent. santalol) is offered on the spot at 36*s.* 6*d.* Reports from the United States say that recently prices have been reduced considerably owing to lack of demand and competition, and $6.75 has been reached for U.S.P. East Indian oil. A recent arrival of 18 cases of West Australian oil has taken place. West Indian (ol. amyris) is quiet at 18*s.*

Pharmaceutical Chemicals.

With the market continuing in its unusually dull state, during the past week a number of further slight declines in value have been recorded. Some inquiries are being received from Japan, but actual business has not yet transpired. The products offered at cheaper rates include aspirin, pyrogallic and tannic acids, potassium and ammonium bromide, benzonaphthol, cocaine, croton chloral hydrate, hydroquinone, phenacetin, phenazone, phenolphthalein, pilocarpine salts, and salol. Pure caffeine, betanaphthol, and calcium lactate are steadier.

Acetanilide continues very quiet, and offers appear to be varying from 1*s.* 4*d.* to 1*s.* 7*d.* per lb.

Aloin is quoted this week at 4*s.* 10*d.* to 4*s.* 11*d.* per lb. on a quiet market.

Amidopyrin continues slack, with quotations well maintained at 21*s.* 6*d.* per lb.

Aspirin is showing up a little easier this week and is offering in some cases as low as 3*s.* per lb., from which prices run to 3*s.* 6*d.*

Atropine Sulphate is unchanged and fairly steady on a dull market at 23*s.* per oz.

Barbitone continues neglected, but values are quite steady at 15*s.* per lb., and slightly less for quantity.

Benzoic Acid is still dull, with quotations steady at 2*s.* 3*d.* to 2*s.* 6*d.* per lb. and 2*s.* 3*d.* c.i.f. to arrive.

Benzonaphthol still rather dull—quotations are about 7*s.* 6*d.* to 8*s.* per lb.

Betanaphthol.—Resublimed is steadier after the recent fall at 3*s.* 6*d.* to 3*s.* 9*d.* per lb.

Bromides are still in good supply, with the demand very unsatisfactory. Potassium, crystals and granular are easier at 9½*d.* to 9*d.* per lb. respectively, and slightly less for quantity. Ammonium is quoted at 1*s.* and sodium round about 1*s.* 1*d.* per lb. for good quality.

Caffeine is considerably firmer this week, and quotations are now averaging 20*s.* 6*d.* to 21*s.* per lb. for the pure alkaloid.

Calcium Lactate is now steadier, with quotations unchanged at 2*s.* 3*d.* per lb.

Chloral Hydrate is quoted on a quiet market at 4*s.* 10*d.* to 5*s.* per lb. for duty-paid crystals.

Citric Acid continues to receive a fair inquiry, but actual business is very restricted; holders are now maintaining their prices fairly steadily at about 2*s.* 5*d.* to 2*s.* 6*d.* per lb., less 5 per cent., according to quantity.

Cocaine.—Small lots of hydrochloride sell at 11*s.* 6*d.* per oz., and slightly less would be taken for an important order.

Cream of Tartar.—Fair-sized quantities are arriving on this market, and with a steady demand the price is maintained at from 135*s.* to 140*s.* per cwt. for 99 to 100 per cent. powder.

Creosote, B.P., continues quiet, with values unchanged at 4*s.* 9*d.* per lb.

Creosote Carbonate is steady at 15*s.* per lb., with the market still slack.

Croton Chloral Hydrate is offered at 15*s.* per lb.

Guaiacol Carbonate continues quiet, but quotations are quite steady at 15*s.* to 15*s.* 6*d.* per lb., according to quantity.

Hexamine is irregular and in some quarters is being quoted as low as 4*s.* 9*d.* and in others as high as 5*s.* 3*d.* to 5*s.* 6*d.* per lb., but the demand is poor.

Hydroquinone is a little steadier in some quarters, with quotations averaging 5*s.* 3*d.* to 5*s.* 6*d.* per lb.; market is not active.

Methyl Sulphonal continues to be quoted steadily at 21*s.* per lb. for B.P. on a quiet market. American is offered at 17*s.*

Morphine.—Hydrochloride is quoted at from 11*s.* 6*d.* to 12*s.* per oz.

Paraformaldehyde is quiet, with values round about 3*s.* to 3*s.* 6*d.* per lb.

Paraldehyde is not inquired for, but values are steady at 2*s.* to 2*s.* 3*d.* per lb.

Phenacetin is showing up slightly easier again this week, with the market still dull; offers are now being made as low as 6*s.* 6*d.* up to about 6*s.* 9*d.* per lb., and for quantity even less would be accepted.

Phenazone has fallen again this week and dealers are offering as low as 8*s.* to 8*s.* 3*d.* per lb.; makers' price is 8*s.* 3*d.* to 8*s.* 6*d.*

Phenolphthalein is being severely cut, and some unusually low quotations are current. The fair average value is about 4*s.* 6*d.* per lb.

Pilocarpine is lower, nitrate offering at 23*s.* per oz. and hydrochloride at 25*s.* per oz. from French makers.

Potassium Permanganate, B.P., continues to be in limited demand and moving at 1*s.* 8*d.* to 1*s.* 9*d.* per lb.

Potassium Sulphoguaiacolate remains quiet, with quotations well maintained at 8*s.* 6*d.* to 8*s.* 9*d.* per lb.

Pyrogallic Acid is easier, importers offering crystals at 7*s.* 3*d.* to 7*s.* 6*d.* and resublimed at 8*s.* 9*d.* to 9*s.* per lb.

Quinine Ethyl Carb. can be had at 5*s.* 8*d.* per oz., and slightly less for quantity.

Quinine Sulphate.—Supplies in second-hands appear to be at the point of exhaustion, and it would be difficult to find sellers at less than 4*s.* 1*d.* per oz., at which price the makers would be glad to do business. There is still inquiry for France, but the price is now too high to permit of business.

Resorcin continues quiet and weak at 8*s.* 6*d.* per lb.

Saccharin, of 550 strength, is quoted at 12*s.* 6*d.* per lb. in bond for export.

Salicylates.—*Salicylic acid*, B.P., continues quiet at 1*s.* 4*d.* to 1*s.* 6*d.* per lb., but for quantity 1*s.* 2*d.* is quoted. *Sodium salicylate* powder is steady this week at 2*s.* 3*d.* to 2*s.* 6*d.* per lb., with the usual premium for crystals Demand continues very poor.

Salol is still quiet, with values rather lower at from 2*s.* 9*d.* to 3*s.* per lb., and even slightly less.

Sodium Benzoate continues steady at from 2*s.* 3*d.* to 2*s.* 6*d.* per lb.

Sodium Diethylbarbiturate, B.P., is quoted a little cheaper this week on a quiet market at 24*s.* per lb.

Tannic Acid.—*Leviss*, B.P., is rather lower at about 4*s.* 6*d.* per lb., and slightly less for cwt. lots.

Tartaric Acid.—Spot is quoted at from 1*s.* 7*d.* to 1*s.* 7½*d.* per lb. for foreign crystals or powder, with an occasional seller at less.

Terpin Hydrate.—Dealers quote 3*s.* to 3*s.* 6*d.* per lb.

Terpineol on the spot is lower at from 1*s.* 6*d.* to 1*s.* 9*d.* per lb. for Dutch. French is obtainable at 1*s.* 10*s.* to 2*s.*

Thymol continues nominal at about 22*s.* per lb.

Heavy Chemicals.

London, June 22.

There is very little change to record in the market since last week's report. The home trade is especially poor, as may be well imagined by the present industrial crisis, which has caused widespread closing down of factories in many trades. Export business, however, is showing signs of revival, and a little more inquiry is now coming through, but actual business is not great.

Acetic Acid continues to be offered from limited stocks, but there is practically no demand, and values are easy

at 44*l.* to 45*l.* per ton for 80 per cent. technical and about 54*l.* for 98 per cent. glacial.

AMMON. CHLOR. is obtainable from dealers at 45*s.* per cwt. for small crystals in casks.

ARSENIC.—Demand is very slow, and prices are easy at around £45 per ton delivered London or Liverpool for white Cornish. Buyers are looking for lower prices, the commodity being still comparatively dear compared with other descriptions of chemical products. The fact may be recalled that prior to the war arsenic could be secured at less than one-fourth of the present cost

BLEACHING POWDER is very stagnant, and quotations are now being made at 18*l.* per ton for 35 to 37 per cent.; values are far from steady.

COPPER SULPHATE.—Price-cutting has been indulged in a little further, due to the slow demand, while the cost of rough bar-copper has been reduced by about 2*l.* The terms quoted vary between about 31*l.* and 30*l.* per ton for casks, less 5 per cent. f.o.b. Liverpool, bags being 1*l.* less. Reports from the Continent having regard to the outlet in Italy are contradictory, some of them now stating that the agricultural demand will be nothing like what it was last year on account of the drought.

EPSOM SALT is offering fairly freely, but the demand is still poor; values are perhaps a little steadier this week at 8*l.* 10*s.* for commercial quality and 10*l.* 10*s.* for pharmaceutical quality.

FORMALDEHYDE is still neglected, with small stocks offering round about 95*l.* to 100*l.* per ton for 40 per cent. volume.

LEAD ACETATE is nominal at 50*l.* per ton for brown broken and 56*l.* for white crystals; there is no demand.

LEAD PRODUCTS.—The demand is limited, although signs of improvement are noticeable for white lead on home account. Export business, however, is very poor, last month's shipments being less than one-half of those for the same month last year, and a long way under the pre-war normal.

LIME ACETATE (80 per cent. grey American) is quoted nominally at 15*l.* per ton, but there is no demand.

LITHOPONE is a little more active, and quotations are now quite steady at 30*l.* to 31*l.* for Continental red seal and 33*l.* per ton for light resisting, casks free.

OXALIC ACID is still dull, with values inclined to weaken; average quotations about 9½*d.* per lb.

POTASH CAUSTIC continues neglected, with values showing up weak at about 40*l.* per ton on spot; makers are quoting unchanged at 33*l.* per ton; export business is very slack.

POTASSIUM BICHROMATE continues to be offered by makers at 10½*d.* per lb.; spot lots are offering from 10*d.* to 10½*d.*; only limited business is being done.

POTASSIUM CARBONATE is still offered by makers at last week's reduced figure of 35*l.* per ton for 90 to 92 per cent.; spot offers above this figure are neglected; the demand is not good.

POTASSIUM CHLORATE continues to be offered by makers at 5*d.* per lb.; spot parcels also are down to this figure, but there is very little movement.

POTASSIUM PERMANGANATE.—Commercial quality continues to be offered by makers at 1*s.* 9*d.* per lb.; imported material is moving fairly freely in dealers' hands at from 1*s.* 6*d.* per lb. upwards.

POTASSIUM PRUSSIATE continues very dull; makers and dealers are quoting about the same, at 2*s.* 3*d.* for red and 1*s.* 3*d.* for yellow.

POTASSIUM SULPHATE is still offered by makers at 20*l.* per ton ex ship for 90 per cent. material; the market continues quiet.

SALTCAKE is still lifeless, with values nominal at 8*l.* per ton.

SODA ASH (58 per cent. light alkali) continues to be quoted by makers at 8*l.* 10*s.* per ton for home trade only and 10*l.* 5*s.* for export; spot parcels are very limited, and values are quite firm at 10*l.* per ton f.o.b.; there is not much demand.

SODA CRYSTALS continue to be offered by makers at the old figure of 7*l.* per ton in bags ex works or station; a few spot parcels are quoted at this figure ex store.

SODIUM BICARBONATE is quoted by makers at 10*l.* 10*s.* in 2-cwt. bags for home trade only; for export 13*l.* per ton for refined material; spot lots of refined are moving fairly freely, but in short supply at about 12*l.* per ton.

SODIUM CAUSTIC.—Makers' prices are 26*l.* 15*s.* per ton for 76 to 77 per cent. in large drums f.o.r. and 24*l.* 10*s.* for 70 to 72 per cent. for home trade only; some spot lots of English 70 to 72 per cent. are offering as low as 22*l.* per ton f.o.b.; American 76 per cent. material is quoted at a competitive figure c.i.f. Continental ports and United Kingdom; business is far from satisfactory.

SODIUM CHLORATE continues to be offered by makers and dealers on a very quiet market at 4¼*d.* per lb.

SODIUM HYPOSULPHITE.—Pea crystals in 1-cwt. kegs continue in fair demand, and are moving at about 25*l.* to 26*l.* per ton; commercial quality is still neglected at about 20*l.* per ton in casks; makers' prices are quoted unchanged at 24*l.* for photographic and 17*l.* for commercial.

SODIUM NITRATE is still offered by makers at the unchanged figure of 18*l.* 10*s.* per ton for 96 per cent. refined f.o.r. Liverpool; there is very little demand.

SODIUM NITRITE continues quiet, with makers' prices unchanged at 42*l.* per ton for 100 per cent. material.

SODIUM PRUSSIATE is still quoted by makers at 7*d.* per lb.; dealers are also offering at this figure, but the market is very quiet.

SODIUM SULPHIDE is quoted by makers at 28*l.* 10*s.* per ton for 60 to 65 per cent. concentrated in casks; spot lots of 60 to 62 per cent. solid have been inquired for occasionally this week, and are quoted at the easy figures of 24*l.* to 25*l.* per ton.

SODIUM SULPHITE. — Anhydrous continues quite neglected; values are nominal at 28*l.* per ton; crystals are quoted by makers unchanged at 12*l.* 10*s.* per ton for home trade only.

ZINC ASHES continue to drag, with values easy at 6*l.* per ton f.o.b., basis 70 per cent.

ZINC CHLORIDE (solution 1.02° Tw.) is still quoted by makers at 22*l.* 10*s.* per ton on a quiet market.

ZINC PRODUCTS.—Business is slow, and prices have kept somewhat in buyers' favour. It is possible to place orders for zinc oxide at the following rates: White seal, 44*l.* 10*s.*; green seal, 42*l.* 10*s.*; and red seal, 40*l.* per ton delivered f.o.r., although some makers quote more for the two higher grades. Zinc dust is slack, while the chief consumers are held up by the strike. Quotations are much the same as before.

COAL-TAR PRODUCTS.—There is no material improvement to record in this market; business is still very slow; values are, however, being maintained. Aniline oil and salt are about 1*s.* 4*d.* per lb.; there is only a very poor demand. Benzol continues to be quoted unchanged at 2*s.* 6*d.* for pure and 2*s.* 5*d.* for 90 per cent. per lb., with limited business being done. Betanaphthol is quiet and weak with values easy at 1*s.* 9*d.* per lb. Creosote oil continues to be freely offered at 7*d.* to 7½*d.* per gallon, but there are but few buyers; values are weak. Carbolic-acid crystals continue very slack, and values are weak from 6½*d.* per lb. upwards. Cresylic acid continues quiet, with values generally quoted unchanged at 1*s.* 10*d.* per gallon for crude and 2*s.* 4*d.* for 97 and 99 per cent. Naphthaline is only being inquired for occasionally; holders continue to quote at the old figures of 6*l.* to 9*l.* for crude, 22*l.* for powder, 23*l.* for crystals, and 24*l.* for flakes, packages free. Pitch continues very dull at 3*l.* per ton, barrels free.

German Drug and Chemical Markets.

THE market report, dated June 15, of a leading Hamburg wholesale drug-house introduces its price quotations with the remarks that "Germany's newest Via Dolorosa will be paved with stones representing tribute, taxes, and levies to be contributed by all forms of industry, commerce, and consumers. Utter confusion still reigns as regards what form these levies will take, but it can be asserted that this threatened taxation is paralysing all enterprise and is killing all desire to be industrious and thorough, since the sap is being extracted from the sick body. The enormous burden of debt incurred by Germany should have a different effect. Recently the German Imperial policy was stirred by a wave of optimism, but it assumes the task of labouring for foreign masters to be simpler than it will prove to be in reality. However,

Germany's future can only be built up by undisturbed work in factory, office, at the plough and anvil, and especially in the school, but not by means of catch words and political formulas. Business and politics have never agreed, consequently in view of the present excess of political activity it is not to be wondered at that so far few signs are apparent of any renewal of activity in our branch of business. Abroad the same complaint is being voiced of overstocked warehouses and insufficient demand, and for the present only a gradual clearance of stocks seems likely to take place by means of small and usually unprofitable transactions." The following prices are in marks per kilo.:

Acetanilide is in poor demand at m.22, and m.25 for export. Offers from persons not belonging to the trade still continue to come in.

Acetic Acid.—Glacial (98 to 100 per cent.) is scarce at m.15, and m.12.50 for export.

Acetylsalicylic Acid.—Manufacturers have lowered the price, and stocks in dealers' hands are low. Original Heyden is offered at m.69, and for export m.74.

Agar-agar has recently been in good demand, and new arrivals are being quickly taken up. The current price is m.64 for original bales and m.70 for broken bulk.

Antipyrin and Antipyrin Substitute.—Both have been in good demand at m.275, and for export m.310.

Aspirin (genuine) has been in demand at m.155, and m.215 for export. Foreign buyers have evinced particular interest in aspirin in tubes at m.6.25.

Atropine is unchanged at m.8,000.

Balsam Peru.—Genuine has changed hands only in small amounts at m.280.

Benzaldehyde, almost free from chlorine, for foodstuffs, has been bought in larger quantities, also by makers, at m.40, and for export m.45.

Benzoic Acid and Sodium Benzoate.—Both are unchanged at m.33.

Bismuth Subnitrate and Subgallate.—Both have been only in slight demand at m.210.

Caffeine (pure) is neglected at m.600.

Camphor (Refined).—Japanese slabs have been in good demand at m.110. Recently important transactions have taken place in powdered synthetic camphor at m.80, apparently for industrial purposes.

Citric Acid.—The regular orders which are now coming in show that stocks are used up, and also that the hidden reserves and speculators' stocks have been cleared. It is now very firm at m.70 both for home and export.

Colchicum Seeds are neglected at m.25.

Copaiba Balsam.—Para, light-coloured, of low viscosity, as imported, is offered on arrival at m.42.

Coumarin has declined to m.250 and is not in demand.

Cream of Tartar (98 to 100 per cent.).—No large transactions have taken place. On the other hand, there is a brisk demand for small amounts at m.27, and for export m.28.

Ergot.—No Russian is available, and Spanish fetches m.125.

Gentian of red fracture has been in demand at m.12.

Glycerin.—Ph.G. V. has been in better demand at m.26.

Guaiacol Carbonate.—Stocks are very low at m.400.

Heliotropine has been neglected at m.275.

Hexamine has been in demand, especially for export, at m.110.

Hydrastis is lower at m.600.

Hydroquinone has been occasionally in demand at m.115.

Ipecacuanha.—Rio has been sold at m.210 and broken bulk at m.220.

Lycopodium.—The demand is far greater than the supply, and only small amounts are obtainable at m.450.

Magnesium Carbonate.—Precipitated light has declined considerably to m.10, and for export to m.12.

Milk-sugar has been very brisk at m.24, and for export m.29, while supplies are very scarce.

Oxalic Acid was in better demand at m.15, and for export m.19.

Phenacetin has been sold only in small amounts at m.140, and for export m.150.

Phenolphthalein.—Considerable transactions have taken place at m.65, and m.70 for export, and it is now firmer as stocks are low.

Potassium Bromide has been neglected, and scarcely any transactions have taken place. Price is m.17 for crystals and m.15 for granular; for export, m.1 per kilo. higher.

Potassium Permanganate, in spite of its low price of m.27, and m.30 for export, has been neglected.

Salicylic Acid is unchanged at m.32, and m.33 for export, with only very small orders coming in.

Salol.—Scarcely any demand at m.50, and for export m.55.

Senega.—Western is m.100 and broken bulk m.120.

Silver Nitrate.—The price follows the rate of exchange, and when the latter depreciates it exhibits a firmer tendency, therefore the present quotation is m.800, and for export m.850.

Sodium Bromide was not in demand at m.23.

Stramonium Leaves are being cleared at m.19.

Sulphonal has been in good demand at m.400.

Tartaric Acid is in extremely brisk demand at m.35 for powder and granular and m.37 for crystals. Prices for export are m.1 per kilo. higher. Supplies are by no means abundant.

Vanillin.—Orders are coming in at m.840, and for export m.860.

Italian Drug and Chemical Markets.

Genoa, June 1.

During the month of May the Italian lira gained further in value, with continual small fluctuations. The value of the English pound sterling fell in this way from lire 82.77 to lire 71.90, reaching at the end of the month lire 73.51. The U.S. dollar was reduced from lire 20.77 to lire 17.60, rising, and finished at lire 18.33 by the end of the month. The French franc rose first from lire 1.60 to lire 1.63, falling later to lire 1.52, and rising, with frequent fluctuations, to lire 1.57. The German mark declined from lire 0.32 to lire 0.30, at which it remained. The above reduction in the foreign exchange brought a further reduction in some pharmaceutical products, drugs, and chemicals, whereas others remained quite unchanged, or even increased in price, owing to a slightly greater demand or scarcity on the Italian market. Among the products that resisted the decline were boric acid, carbolic acid, glucose, magnesium chloride, magnesium sulphate, fused sulphate of soda, bleaching powder, borax crystals, nitric acid, yellow prussiate of potash, bicarbonate of soda, bisulphite of soda, carbonate of soda, sulphuric acid (66° Bé.), etc. Through a new commercial agreement a yearly exportation was arranged from Italy to Czecho-Slovakia of 10 tons of natural essences, 10 tons perfumes, 200 tons of fresh flowers, 100 tons of asbestos goods, 2,000 tons citric acid and citrate of lime, 600 tons of coal-tar colours, 1,500 tons of other chemicals, 1,000 tons kitchen salt, 600 tons of drugs, 100 tons tea, 6,000 tons coffee, 2,500 tons cocoa beans, 1,500 tons tanning extracts, 10,000 tons iron minerals, 6,000 tons iron pyrites, etc. It was also arranged that such products as sulphur, mercury, liquorice extract, cream of tartar, and castor oil be exported without limit. The following yearly exportations were authorised to Italy from Czecho-Slovakia: 500 tons of china clay (kaolin), 480 tons of montan wax. 2,000 tons of perfumes, 20 tons soaps, and 1,000 tons of coffee substitutes, etc. Commencing from the month of June 1921, the price of sale for sugar destined to industrial purposes, and distributed from the deposits, has been established at lire 700 per 100 kilos. Some of the current prices prevailing at the end of May were as follows, the exchange being reckoned at lire 73.50 to the English pound sterling:

Pharmaceutical Products.

	Lire per 100 kilos.
Acetic acid, glac.	850 to 875
Acetone, pure	1,000
,, commercial	550
Alcohol, denatured, 90°	750
,, ,, 95°	1,800
Ammon. carb., lump	500 to 550
Ammonium chlor., lump (98-100)	500
Ammonium chlor., lump (95-96)	475
Antimony sulphide, lump	500
,, ,, powder	500
Boric acid, crystals	750 to 780
,, ,, large flakes	800
Camphor tablets	4,000
Carbolic acid, cryst., 39° to 40° C.	850
Carbolic acid, liq., 95 p. c.	300
Castor oil, medicinal	600 to 625
Ceresin, pure white	1,000
Cod-liver oil, medicinal	600 to 650
Glucose, 45° Bé.	350 to 375
Glycerin, refined	925 to 950
,, d.d. s.g.1·260	1,000 to 1,025
Honey, white	810 to 820
Hydrogen peroxide (10 vol.)	180
Magnes. carb., lump	650
Magnesium sulph.	80
Naphthalene flakes	240 to 250
Oxalic acid, xtals.	1,050
Pot. chlorate, powder	350
,, ,, santonin xtals.	385
Potash permang.	1,250 to 1,450
Quinine citrate	80,000
,, sulphate	50,000
Soda pruss., yellow	800 to 825
,, salicylate, xtals.	4,000
,, sulph., anhyd., fused	100
Sulphur, refined	130 to 132
Vaseline, best white	950 to 1,000
Wax, veg., Jap.	1,100
,, carnauba	1,750

Italy Buys Cinchona Plantation.

Javanese papers report that the commission recently sent by the Italian Government to consider the possibility of establishing a cinchona plantation in Java on behalf of the Italian Government has purchased a portion of the ground devoted to the cultivation of tea at Pattooah Wattee, in the vicinity of Bandoeng. Although several years must necessarily elapse before foreign undertakings are able to compete with the prices fixed by the Bandoeng Quinine Factory, nevertheless attention is already drawn to the effect that such foreign undertakings are bound to have in time in bringing about a reduction in prices.

CORRESPONDENCE

Dreams of the Past.

"And there we stood talking
Of dreams that are gone,
While the whole population
Of drugland looked on."

SIR,—The words of the Irish song quoted above only need altering very slightly to describe the Conference of 1921, so far as any practical ideas are concerned. You ask in your leader: "Must it always be in pharmacy that the people well past the qualifying age should make the conditions for future generations?" The answer is—Yes; for another two years yet! For by the Conference of 1923 England will be compelled to deal with her domestic problems of: (1) Trade unions; (2) mis-education; and (3) wrong finance. And in the upset resulting therefrom all the old vain political and pharmaceutical dreams will vanish. The fall of Dr. Addison will be nothing to what is coming. And we venture to suggest that certain Conference papers were planned, if not written, before Addison's unexpected fall. The doles that are keeping the people going to-day will have to stop; and I fully expect to see National Health Insurance hugely altered, in the stopping of the doles, if not entirely scrapped. Patents, therefore, would seem to be indicated as being worth cultivating, if only to pay expenses to the next Conference. I am looking on and taking notes with great interest.

Yours truly,
JAY MACK.

Mr. Peck's Presidential Address.

SIR,—The Presidential address to the British Pharmaceutical Conference, although making interesting reading, follows chiefly the orthodox lines, commencing with a *résumé* of the past and concluding with a fanciful sketch of the possibilities of the future, while leaving the pharmacist of the moment to help himself out of his present slough of despond as best he may. Although Mr. Peck apparently deprecates the man who complains that pure pharmacy does not pay and turns his attention to commercial matters as more lucrative in order to make a living, his remedy for this state of affairs is really only another side-line, although on a more professional basis. Now, the system under which most of us at present in business were trained was that in which the qualifications were the Minor and Major certificates, and in the latter of these two practical pharmacy had no place whatever; it is therefore to be concluded that in the eyes of the law and the examiners a Minor graduate was a perfected pharmacist for the practice of his profession. Why not, therefore, devote our energies to securing for this fully developed individual his legitimate work and assuring him a living from it? Because, forsooth, of the vested interests. By vested interests we are doubtless to understand the doctor who does (in more senses than one) his own dispensing. Think of the confused nomenclature, think of the hopeless incompatibilities, of the disregard for doses, and of the directions in mixed Latin and English that one meets in daily practice, and then try to imagine the dispensing that is carried on under the protection of the vested interests. What a truly British reason! Is there a wrong to be put right? Is there an accident to be inquired into? Is there a benefit and safeguard to the public to be obtained? Yes, undoubtedly; but you must not interfere, you will disturb the vested interests. What a subject for the pen of Dickens! What a character study he would have made of the enthusiastic young pharmacist first starting out in business and gradually losing his ideals and his money until he is reduced to selling sticks of lip salve and grease paint to eke out an existence, while the medical man over the road, instead of dreaming of final objectives, consolidates his position by sticking to his own job and the pharmacist's as well, and ends in ease and affluence. While fully realising that a qualification as a clinical analyst would be an addition to our present capabilities, it is very doubtful if, for many years to come, there would be sufficient work for more than one or two men in any given district, while of our legitimate work there would be sufficient for all, and also leaving the doctors the extra time to give that attention to their patients which, if we are to judge by the remarks patients make, they do not get at present.

Yours faithfully,
UNVESTED (18/6).

Costing Systems.

SIR,—The principles of costing as enumerated by Mr. Skinner in his paper on costing systems before the British Pharmaceutical Conference are no doubt worked out on scientific lines, but I am afraid that the paper as a whole is rather over the head of the average work-a-day pharmacist, especially with regard to that part of the charges which he calls on-cost. But the part of the paper which interested me most was that part dealing with the Insurance Investigation Committee of 1915, whose report he takes largely as the basis of his figures, and I cannot help thinking, from an ordinary man's point of view, that there are three fundamental objections to the principles there laid down. The first objection is to the cost-price figure for drugs; the second to investing the capital required without profit; and the third to the flat fee to cover establishment charges and dispensing. The first objection is obvious. The argument may be old now, but no man can buy a pound of a drug, say at 15*s*., from a wholesaler, and dispense it in one- or two-drachm quantities in such a way that he receives 15*s*. from the pricing bureau; there is, therefore, a constant and accumulative loss on this part of the system alone. Secondly, the capital is completely locked up in the drugs required and is steadily depreciating, as there is no return from it; you cannot borrow money without paying interest, but pharmacists are lending theirs to the Insurance scheme for nothing. Thirdly, the flat rate of fee causes in reality a differentiation of pay according to locality; the pharmacist who is situated in a district where N.H.I. scripts come in their thousands gets actually a higher rate than the one in an area where they are few and far between. Every big manufacturer or advertiser will tell you that the more goods they turn out the cheaper is the cost of production, so that by paying a flat fee to cover charges and labour the man with the quantity is placed on better terms at once than the man with a few, through no merit of his own. These objections seem to me so plain that I should hesitate before applying them to the rest of my business, although I fully appreciate Mr. Skinner's remarks in the latter part of his paper when he points out that few pharmacists take into account their own remuneration as management fee. This is particularly to be noticed in the advertisements for the sale of businesses, the net profits being frequently declared at such a figure as to leave it palpable that the advertiser had forgotten to pay himself any wages.

Yours faithfully,
ON COST (19/9).

Legal Queries.

Curious (15/6), as manager for a firm, is entitled to a commission upon "the annual net profits" of the business. Do we consider that the net profits are to be determined before or after deducting the repairing and refitting of the pharmacy? [As the agreement is not definite upon the point, it is largely a question of what was the intention of the parties. In our view, however, "net profits," in this connection, are those remaining after meeting the cost of repairs and improvements.]

C. F. W. (13/6).—An unmarried woman has died intestate, leaving money invested in Government securities and deposited in the Post Office. She is survived by brothers and sisters; to whom will the property pass? [We assume that both the parents of the woman predeceased her, in which case the property will be divisible between all her brothers and sisters in equal shares, the children of a deceased brother or sister taking the share their parent would have taken if alive.]

Nara (14/6) occupies lodgings in a London suburb. He employed as a traveller, and returns to his lodgings very night when on his London journey, and every eek-end when on his country journey. Will this constitute sufficient "residence" in the parish to satisfy e requirements in connection with the publication of e banns of his forthcoming marriage? [Provided J. M." retains the lodgings, and occupies them in the anner stated, until after the publications of the banns as been completed, he is undonbtedly, in our opinion, sident in the parish for the purpose in question.]

Tenant (14/6) states that his landlord increased the ent of the premises of which he is tenant by 20 per cent., 1 March last. He has now received from his landlord further notice increasing the rent by an additional 10 per ent., as from July 8 next; is the latter advance permissible? ["Tenant" does not state the nature of the enancy, nor the rent which he pays for the property; ut there is very little doubt that the second advance f 10 per cent. is the one which landlords were debarred, n certain cases, from making until after July 2, under he provisions of the Increase of Rent Act, 1920. It is robable that "Tenant" must pay the increase; but without particulars no definite opinion can be given.]

W. R. (11/6) gives particulars of his balance at bank n April 5, 1920, and his balance on April 5, 1921, and sks if either of these balances or the difference between hem, if the later one is the greater, is chargeable with ncome-tax. [No. A bank balance as such is not chargeble with income-tax. The question of any liability on t would only come in indirectly in this way. On the naking out of a cash account in order to ascertain the profits made on the business in the year, if the bank balance at the end of the tax year exceeded the bank balance at the beginning, that would indicate, in the rdinary course of things, that the difference represented profit made in the year, and would have to be included n the return of profits sent in. On the figures given this would be 40*l.*]

R. I. E. (14/6) is informed by his bankers that the heques which he has written during the past year have been lost. He is anxious to have the cheques returned o him, as in some cases he has no receipt for the amounts or which the cheques were sent. Is he entitled to make claim against the bank? [The cheques are the property of "R. I. E.," and if his bankers fail to return hem they are, in our opinion, responsible for the consequences. On the other hand, if "R. I. E." takes legal proceedings against the bankers he is, in our view, unlikely to recover more than a nominal sum as compensation unless he can prove that he has suffered some special damage as the result of the loss of the cheques, which pparently is not the case. In the circumstances, if "R. I. E." is satisfied that the cheques are lost it is hardly worth his while to sue the bankers, who will, no doubt, afford him every assistance in proving the payment of any amount which may be disputed by the payee.]

M. M. (2/6) bought a house about twelve months ago, nd has been called upon to reconstruct the drains. Ten ears ago the local authority put in a new sewer, at the ear of the house, and carried a ventilating-pipe across he yard and fixed it to the wall of the house. He inds that the ventilating-pipe will interfere with the aying of the drains, and also occupies the only suitable position for a ventilating-pipe for the new drains. Can he compel the local authority to remove the pipe?—"M. M." should ascertain, by inquiring of the then owner of the house, and by looking at the plans which the local authority holds, the exact nature and position of the work done ten years ago. He should also find out whether he local authority agreed to pay any rent in respect of he use of the premises for fixing the ventilating-pipe, since, if an unqualified permission was given to the local authority to fix the pipe, we doubt whether its removal could now be enforced. We should think that the best way would be for "M. M." to explain the situation to he local authority and obtain permission to cut into the existing ventilating-pipe and use it also for the ventilation of the new drains.]

Miscellaneous Inquiries.

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

W. F. (1/6).—Echinacea Angustifolia is a native plant of the prairie region of the United States, and is much employed by eclectic physicians in America. The plant is stated to be of value in the treatment of snake-poisoning and diseases brought about by micro-organisms. This claim has, however, been disputed after an investigation by two officials of the Bureau of Animal Industry of the United States Department of Agriculture, but Mr. James H. Beal thinks there is a perceptible margin of evidence, clinically speaking, in favour of echinacea treatment.

W. C. C. (30/5).—Pyrene used as a fire-extinguisher is carbon tetrachloride.

C. A. S. & Co. (31/5).—(1) We do not know the composition of Kelpion ointment, beyond the fact that it is an iodine preparation. (2) The formula for rolling cream in "Pharmaceutical Formulas" (p. 842) is the best we know of.

T. W. & Co. (28/5).—Liquid Paraffin can be coloured a golden yellow with "butter-yellow" or "Sudan G" aniline dyes. For green oil soluble chlorophyll should be tried.

J. L. (1/2).—Turkey-Red Oil, which is used as an emulsifying agent, is prepared by the action of sulphuric acid on castor oil. A formula for making the oil on a small scale was given in the *C. & D. Diary*, 1919, p. 91.

J. T. C. (25/5).—The idea of enclosing a medicated pastille in a perforated dummy teat seems an excellent one. A boiled-sugar sweet would not be so suitable as a soft pastille.

Retrospect of Fifty Years Ago.

Reprinted from "The Chemist and Druggist," June 15, 1871.

French Wholesale Houses.

There are several very important wholesale drug-houses in Bordeaux, though their exterior offers but little promise, and their interior but little of the ordinary display. At the same time these warehouses are most curious to the pharmaceutical observer. They do not keep the old signs, as at Lyons, where one wholesale druggist hangs out the sign of the "Golden Mortar," another the "Unicorn," another (with 150 years of existence) the "Dragon"; but they have wonderful specimens of drugs in their windows, and still more remarkable objects inside. One house in particular has an interior that reminds one of the description given of the laboratories of the alchemists of the days of Paracelsus and Albertus Magnus, the learned Dominican. Around the principal store-room, into which customers first enter, are arranged glass jars, containing snakes, vipers, two-headed animals, chickens with four legs, and other monstrosities; from the ceiling hang, hallowed with the dust of ages, small crocodiles, chameleons, a huge codfish with distended jaws, showing treble rows of teeth, reptiles of all sizes; certainly not the place to give the stranger an innocent idea of the scientific character of medicines in the nineteenth century, but more suggestive of the times when the most disgusting secretions of the human body were gravely recommended, and when the moss from a dead man's skull was procured with care and administered as a sovereign remedy against fainting fits. It is true that dried vipers enter into the composition of the French "Theriaque," and frogs into that of the Spanish "Emplastro de Ranar con Mercurio"; but these preparations are exceptional ones, and are generally prepared without these curious but useless animal ingredients. Some of the specimens of drugs, used for display, are very fine. I have seen pieces of yellow Calisaya bark over three feet in length, and twelve inches in width—red cinchona bark fully three inches in thickness—enormous jalap tubers, and great masses of rhubarb. And this, notwithstanding that the ordinary drugs sold by the wholesale houses in France, are much inferior to our own.

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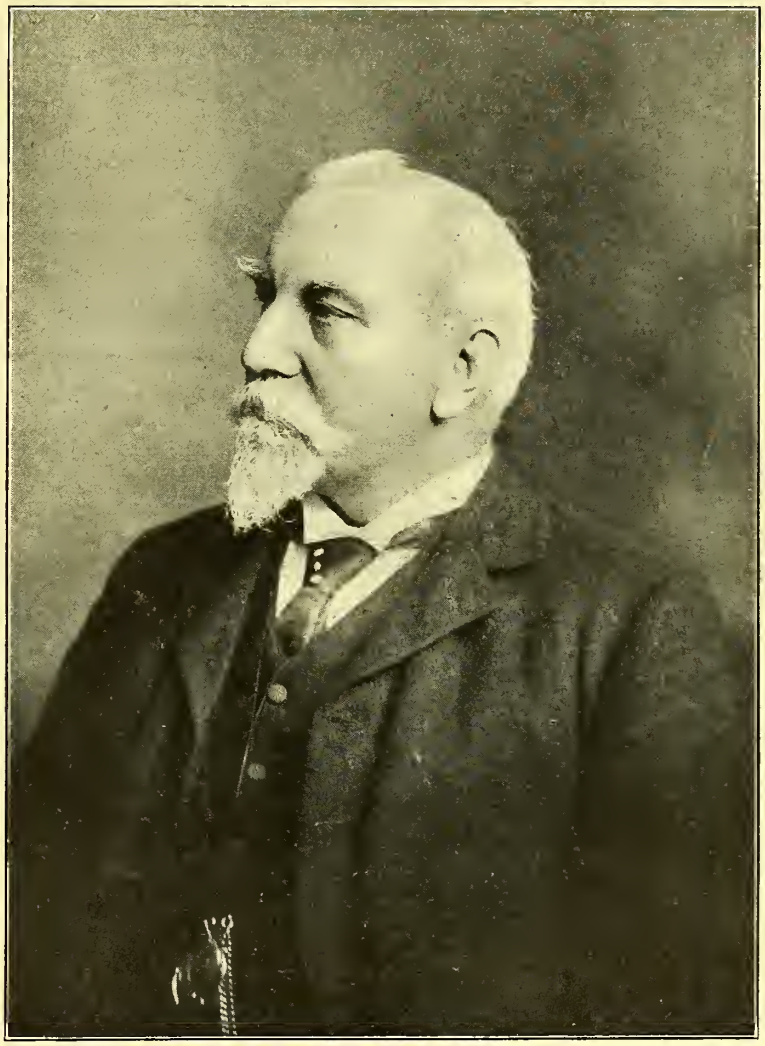
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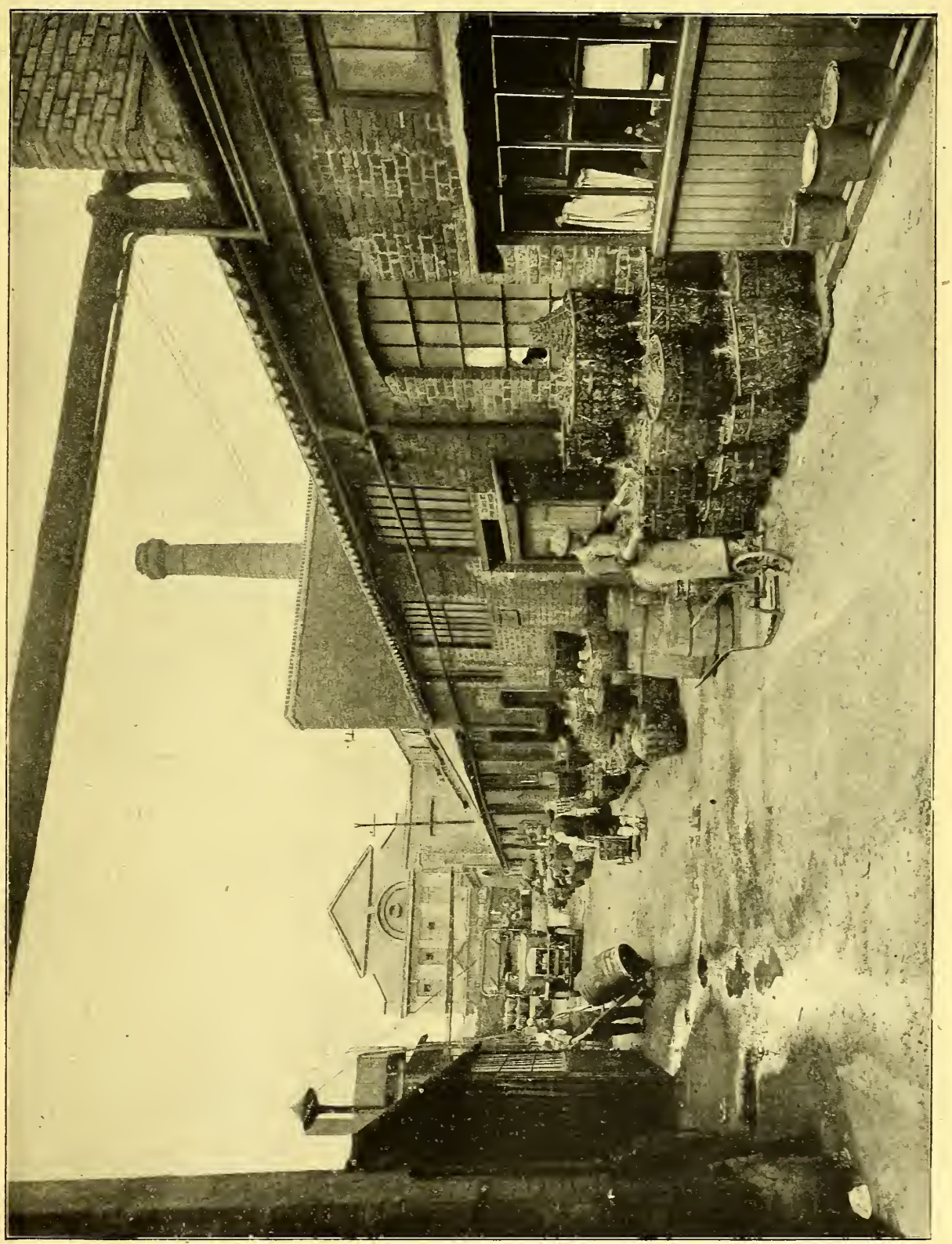
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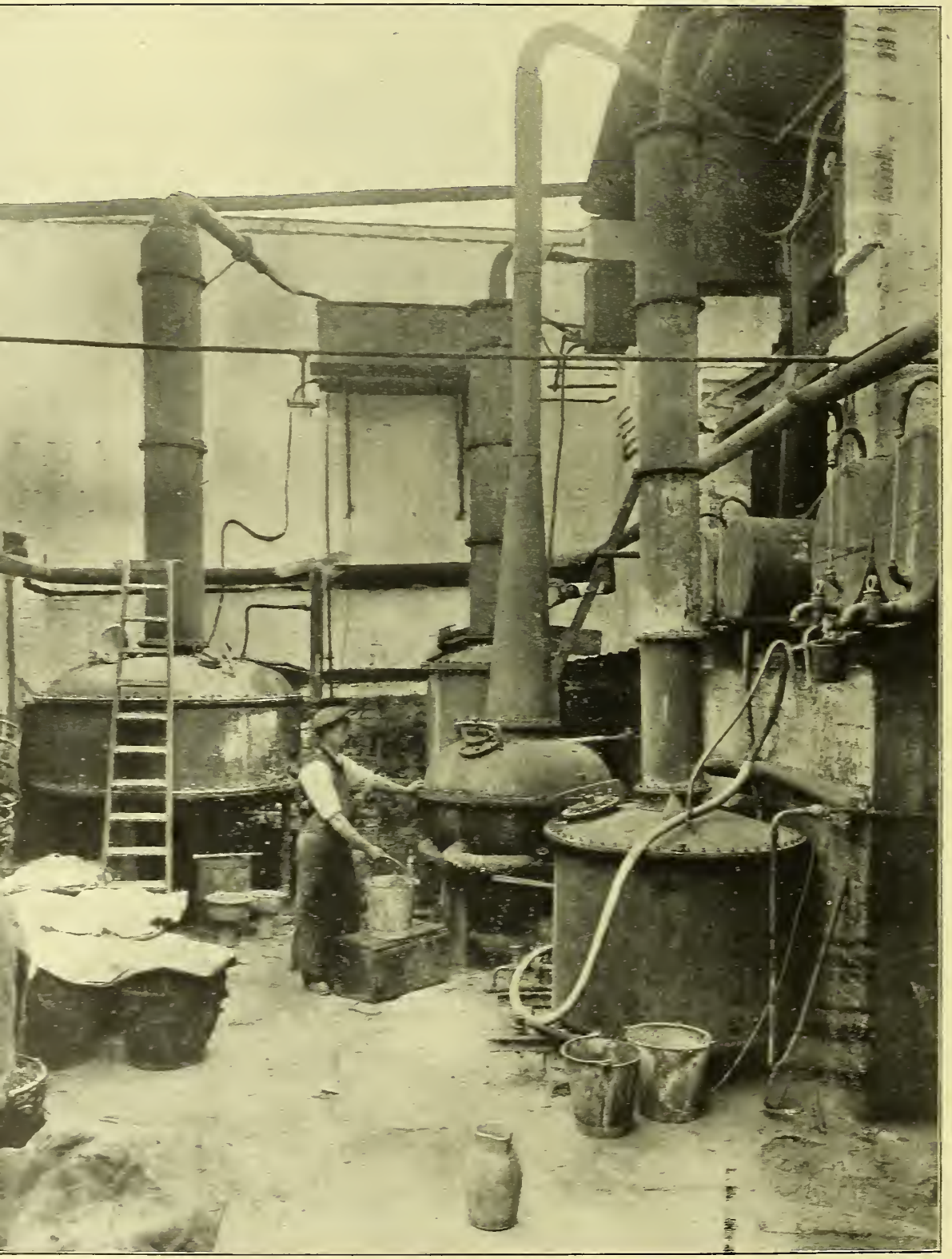
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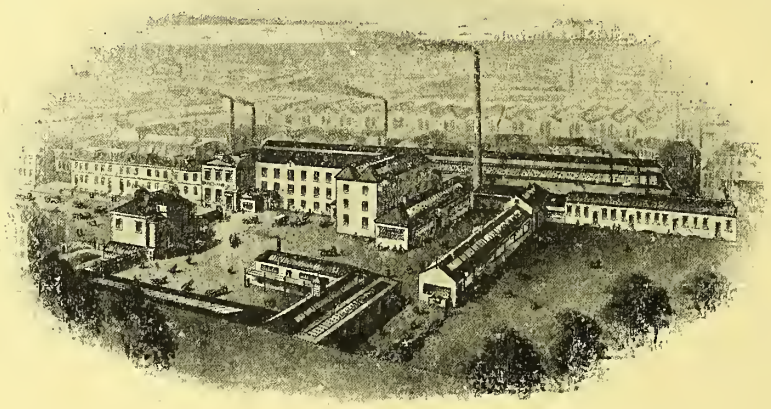
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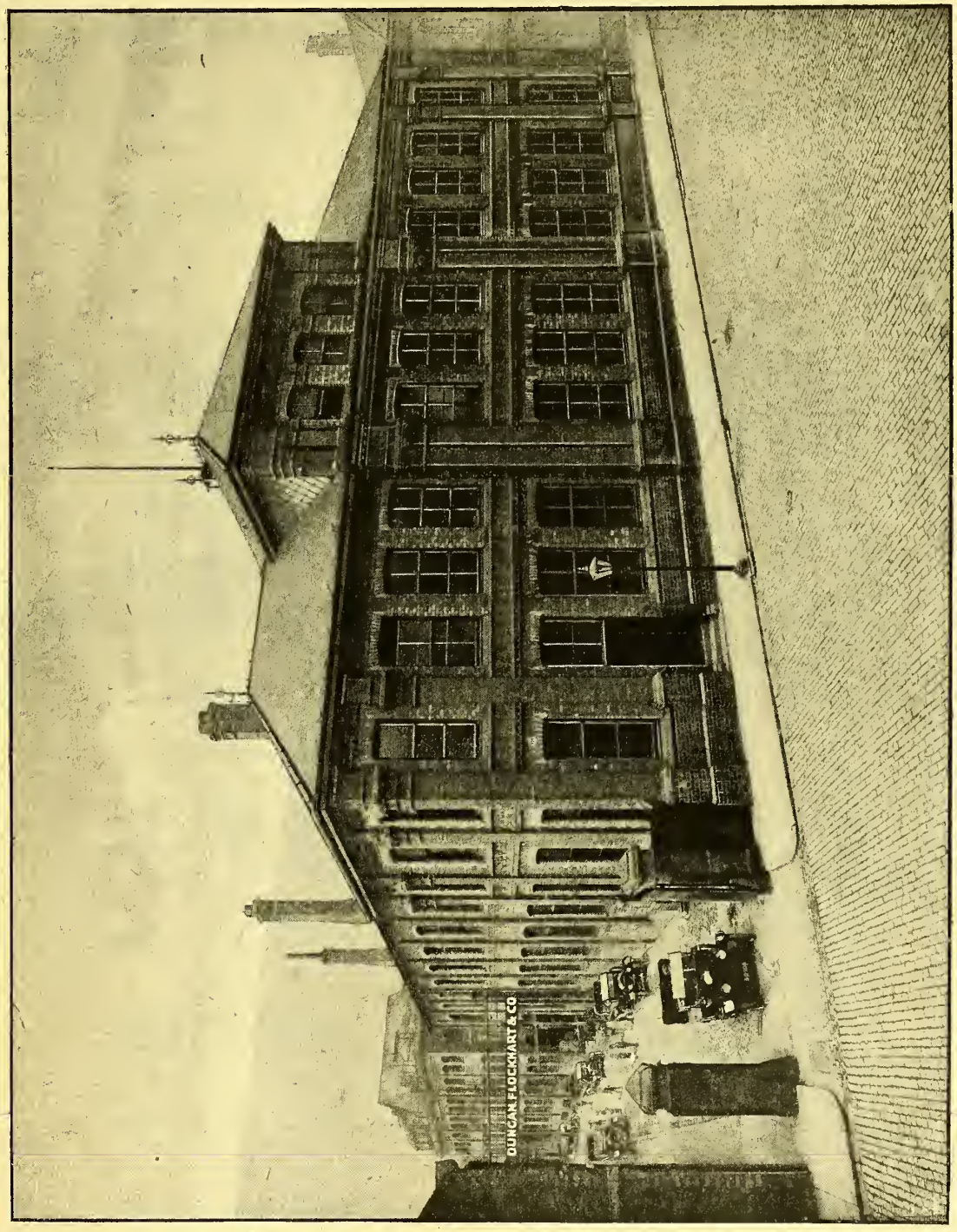
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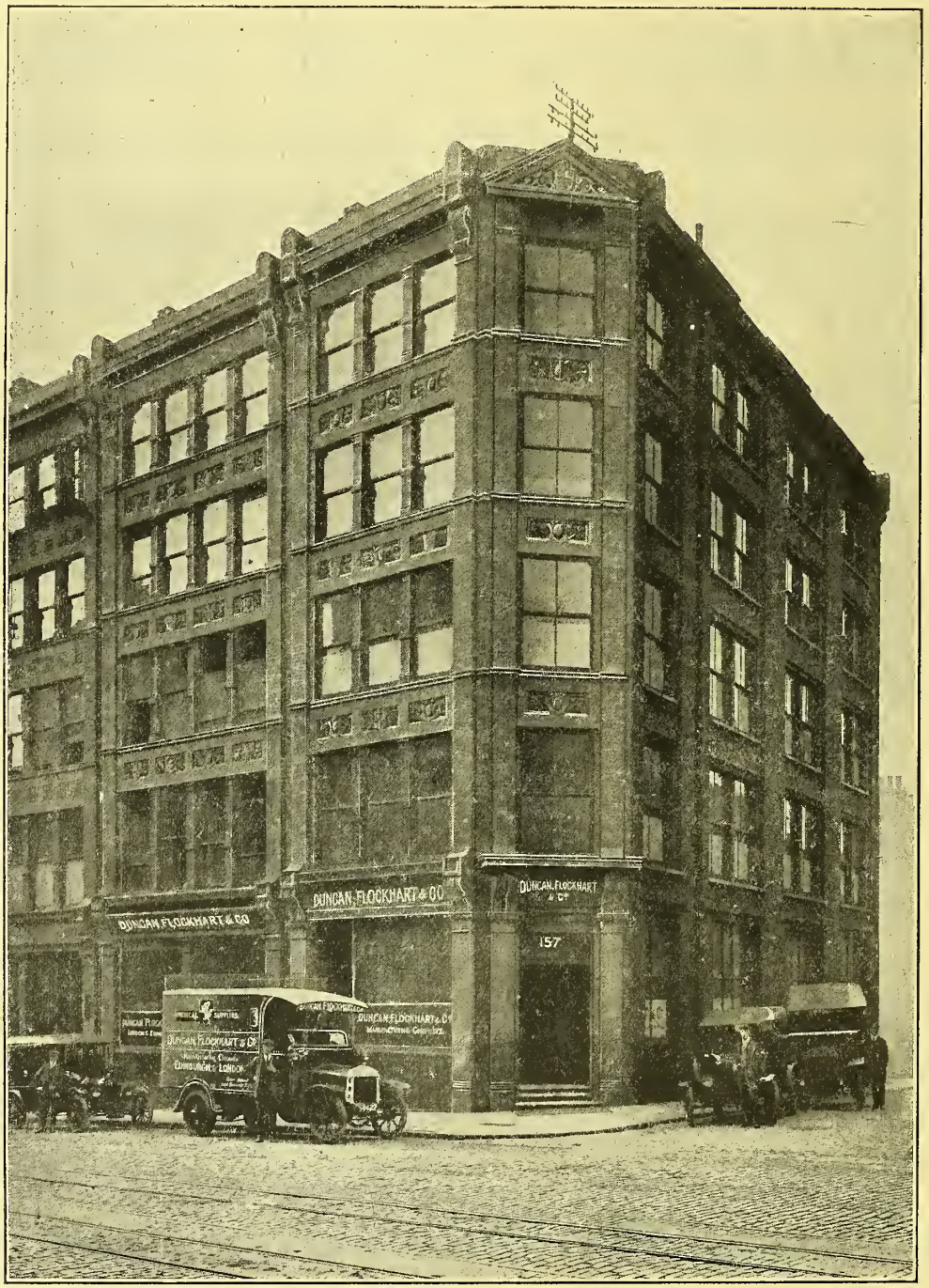
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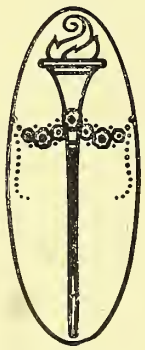
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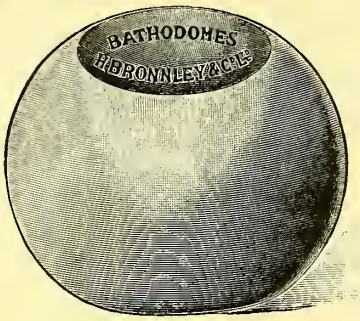
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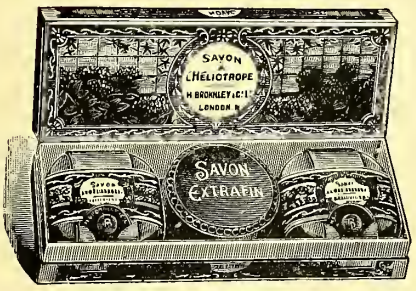
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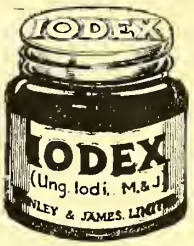
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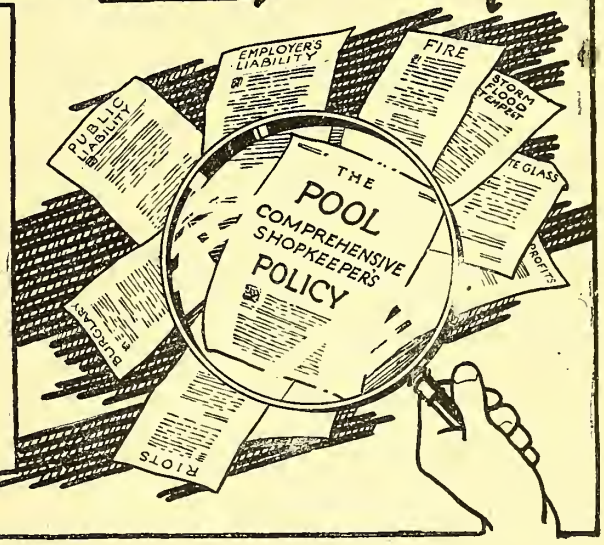
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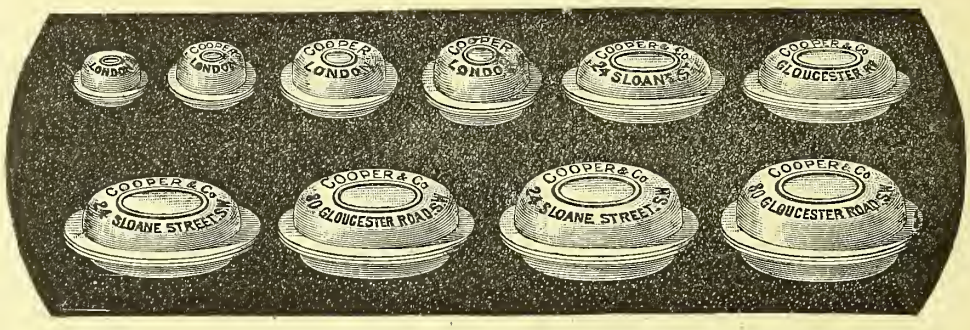
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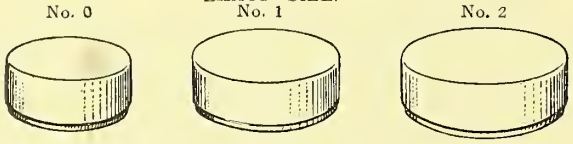
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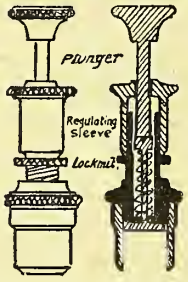
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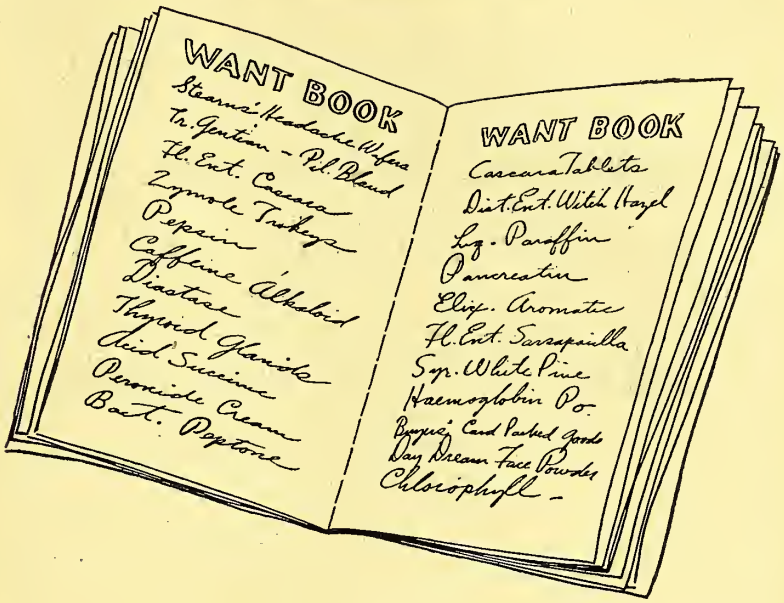
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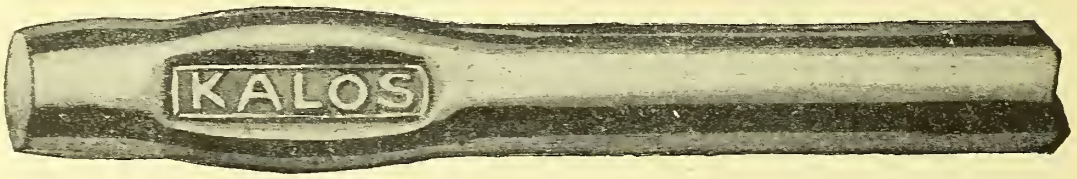
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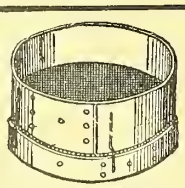
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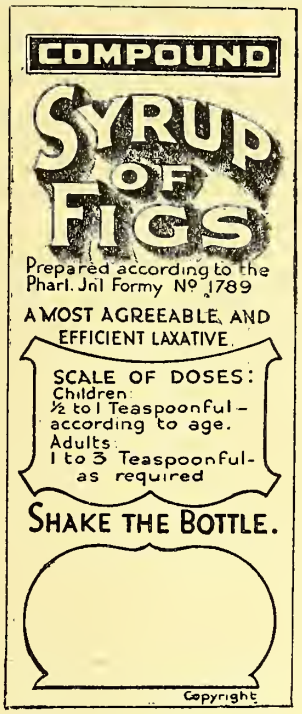
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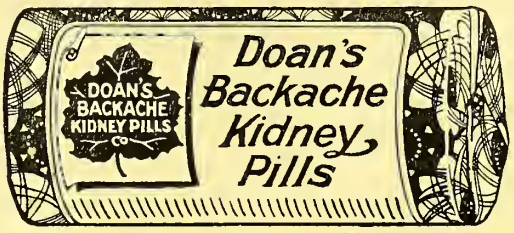
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	England (Scotland and Wales)			Ireland (Channel Isles and Isle of Man)		
	Per dozen in 6-dozen lots	In less than 6-dozen lots	Minimum retail prices	Per dozen in 6-dozen lots	In less than 6-dozen lots	Minimum retail prices
Doan's Backache Kidney Pills	26/0	29/0	3/0	23/6	26/3	2/9
Doan's Ointment -	26/0	29/0	3/0	23/6	26/3	2/9
Bilax - - - -	10/9	12/0	1/3	10/6	11/9	1/3

Carriage Paid. Accounts Net. Payment due last day of following month. Best prices allowed on orders amounting to £7 : 16 : 0 (Ireland, Channel Isles and Isle of Man, £7 : 1 : 0). Goods assorted as required.

Foster-McClellan Co., Manufacturing Chemists,

8 Wells Street, Oxford Street, London, W.1

Telegrams: "Fluoric, Ox, London." *Telephone: Museum 4864.*

PROFITS
You Cannot Afford to Overlook

This season millions of readers throughout the British Isles are being convinced of the need of **Nujol** by an extensive advertising campaign throughout the United Kingdom.

They are being shown that constipation poisons their entire system; that the use of castor oil, pills, salts, mineral waters, etc., makes the last condition worse than the first; that **Nujol** is not a drug, and does not act like any drug, but furnishes a simple and natural way of relieving constipation harmlessly.

Among these readers are many customers of yours. They want better health, they want

Nujol
TRADE MARK
FOR CONSTIPATION

Nujol is made from the choice of the world's finest material by expert chemists in a model laboratory. It is absolutely pure and exceeds all B.P. requirements.

The market for **Nujol** is a market you cannot afford to overlook. Stock **Nujol**—display it—and thus take advantage of the **Nujol** national advertising and get your full share of the profits.

Sole Distributors for the United Kingdom:
ANGLO-AMERICAN OIL CO., LTD.
MINERVA HOUSE, BEVIS MARKS, LONDON, E.C. 3.

For India: Muller & Phipps (India), Ltd.
Bombay - Calcutta - Madras.

Send your Name and Address for attractive Window Display Material, Carriage Paid.
ANGLO-AMERICAN OIL CO., Ltd., Minerva House, Bevis Marks, London, E.C.3.

MILLER'S

MUSTEROLE

WILL NOT BLISTER

Why not get the Musterole Sales of your locality?

Musterole, in addition to being a recognized family remedy for treatment of coughs, colds, congestions, etc., is one of the most widely advertised articles in Great Britain.

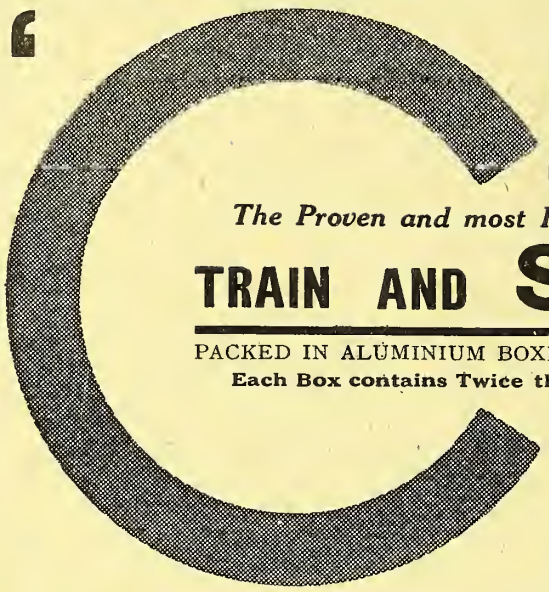
In 1921, more than 415,000,000 impressions of Musterole advertising are appearing in leading magazines, newspapers and weekly periodicals. This advertising is bringing enquiries from consumers everywhere.

Why not get the Musterole sales of your locality? Display Musterole prominently in your windows and note the results. Prices and trade information sent on request.

Thos. Christy & Co.
4-12 Old Swan Lane,
London, E.C.4.



BUYING AGENTS Required in all Parts of the World.



'C. CURE.'

The Proven and most Reliable Preventive and Cure for

TRAIN AND SEA SICKNESSES

PACKED IN ALUMINIUM BOXES ENCLOSED IN DECORATED CARTONS

Each Box contains Twice the value of any other similar Remedy.

Large Size - **8/-** - per Box.
(Enough for Four Journeys)

Small Size - **4/-** - per Box.
(Enough for Two Journeys)

Liberal Discounts to Wholesale and Shipping.

APPLY:

'C. CURE' Ltd., 111-113 Great Portland St., London, W.1

Phone: 4510 Mayfair. *Correspondence in All Languages.* Telegrams: "Cecurio, Wesdo, London."

YOU will pay less Postage, and

WILL save much time, if you

USE "Reindeer"

Self-Lock Stationery

For Order Forms, Invoices, Statements, &c.

No Trouble! No Envelopes!

Write for Samples to— **James F. Wilkinson**

(Exors.: G. F. BERRY AND J. G. DRIVER)

Pharmacists' Printer,

Bury Street, PENDLETON, Manchester.

REAL SILVER LEAF

As supplied for many years to the leading Houses for Pills, Cachous, &c.

We also supply

GOLD LEAF AND GOLD POWDERS

WHOLESALE ONLY.

E. WINTER & CO., LTD.

Head Office: **64 Cheapside, London, E.C. 2.**

TELEPHONE: Central 985.

ESTABLISHED 1839.

CHEMISTS' OVERALLS

From GARDINER & CO.

We supply protective overalls in any colour or style required. They are made by experienced hands for all branches of the Chemical trade.

KHAKI DRILL –	12/6, 16/11, 21/6, 24/6
WHITE DRILL –	14/6, 17/6
BLACK DRILL –	18/6
HOLLAND DRILL –	19/6

Sizes 34, 36, 38, 40, 42 and 44 inches over waistcoat.

SPECIAL QUOTATIONS FOR QUANTITIES.

GARDINER & CO. (THE SCOTCH HOUSE) LTD.

1 Commercial Road, E. 1.

Teleg.: "Durastyle, Phone, London." Phone: Av. 6650 (4 lines).

RECOMMEND



for NEURALGIA

When a customer asks for 'something for Neuralgia' or Headache, why not recommend DAISY and so make sure that she will be quickly, safely, and surely relieved?

Your customers know all about DAISY and trust it completely—they have read the medical testimony and know that its formula has high medical approval. A mere reminder about Daisy will make the sale for you at once without effort,

AND EARN 50%—100% PROFIT

If your own information about the present-day Daisy is not very complete, why not find out about it? If you will kindly write us, we will gladly send you a sample, so that you may put it to any practical or therapeutic test you desire.

Here is medical testimony to the value and safety of Daisy which we have published throughout the country for over two years.

Dr. ROBERTSON WALLACE *writes* :—

Dr. ROBERTSON WALLACE, M.B., C.M. 64 Haymarket, Piccadilly Circus, W.
November 12th, 1918.

DEAR SIRS,—For many years I have watched the introduction of headache specifics and subjected them to both analytical and clinical tests, but have never felt inclined to approve of their composition or effects. I must admit, however, that your new formula for the "Daisy" Headache Cure merits my complete approval, and I am especially pleased to note that you have replaced the depressing ingredient, acetanilid, by an infinitely safer and more certain principle, free from any possibility of causing injury to the system. I lay great stress both on its efficiency and safety, and am constrained to compliment you on your commercial courage in placing an unusually costly formula, at a reasonable charge, at the command of the public.

Yours faithfully, (Signed) ROBERTSON WALLACE.

TERMS:

1/- Packets each containing 8 powders—Minimum Retail Price, 1/- ; Sample Powder 2d.
For not less than 1 doz. Boxes, **9/9** per doz. For not less than 3 doz. Boxes, **9/2** per doz.
2/3 Packets each containing 20 powders—Minimum Retail Price, 2/3.
For not less than 1 doz. Boxes, **21/6** per doz. For not less than 3 doz. Boxes, **20/6** per doz.
Mixed Orders for 1/-, 2/3, 6/- size and for Daisy Tablets on best terms.
Discount 7½ per cent. for cash. *Carriage Paid to destination.* From all Wholesalers or direct.

DAISY, LTD. MANUFACTURING —CHEMISTS— LEEDS.

TELEGRAMS: "Daisy Leeds." TELEPHONE: 22042.

One of the very best sellers in *your* business, with a specially rapid sale, and well advertised.



1/3

WOODWARD'S
"GRIPE WATER"

1/3 per Bottle.

(*Under the protection of P.A.T.A.*)

NET PRICE:

1 gross, delivered free to your door, **£7.**

Your profit is 28½ per cent.

No more used "Gripe Water" Bottles required.

SOLE PROPRIETORS:

W. WOODWARD (1920) LTD., 79-87 Fortess Rd., London, N.W. 5

BEECHAM'S PILLS

WHOLESALE PRICES.

Beecham's Pills:

1s. 3d. size	... ...	10s. 6d. per doz. net.
3s. 0d. „	... ...	26s. 6d. „ „
5s. 0d. new size, contains double the quantity of 3/- box.		50s. 0d. „ „

Beecham's Cough Pills:

1s. 3d. size	... ...	10s. 6d. „ „
3s. 0d. „	... ...	26s. 6d. „ „

Minimum quantity £5 value. Packages FREE. Carriage PAID. CASH WITH ORDER.

Cheques to be made payable to **THOMAS BEECHAM**, and crossed "Parr's Bank, Ld., St. Helens."

REMEMBER
TOWLE'S CHLORODYNE

DOES NOT REQUIRE CUSTOMER'S SIGNATURE
AND IS NOT AFFECTED BY THE POISONS & PHARMACY ACT
(PRIVY COUNCIL ORDER, JAN. 1, 1921)

1/3 SELLS READILY, ENSURES SATISFIED CUSTOMERS AND REPEAT SALES. BEST VALUE. **3/-**

"THE CHLORODYNE WITH 60 YEARS' REPUTATION."

A. P. TOWLE AND SON,
75 BACK PICCADILLY,
MANCHESTER.

Your Customers . .
are buying China Cement somewhere.



Showcards free on request.

Are you getting your share of this business?

You can attract it by displaying the artistic COAGULINE Showcards and maintaining your stock of this well-known line.

'COAGULINE' REG'D. TRADE MARK

Why not include some in your next Sundries order?

KAY BROTHERS LTD., STOCKPORT

Cephos

For NEURALGIA, HEADACHE, RHEUMATISM & INFLUENZA.

TRADE TERMS:

MINIMUM RETAIL PRICE	1/3	3/-
PRICE ... ... per doz.	12/-	30/-

Bonus of 10/- on £5 worth for 14 days' Window Display

Terms: Cash in one month. Orders carriage paid. Minimum Retail Price: Loose powders 2½d. each, yielding a profit of 99%.

CEPHOS LTD., BLACKBURN, Lancs.

LIQUID BARKOLA COMPOUND

The Well-known Specific for Rheumatism has been on Sale continuously in Great Britain for over 30 Years.

Wholesale 30/- per doz. Retail 3/-

Each bottle (1-oz.) carries instructions to the Chemist to make up to the following Standard Formula—

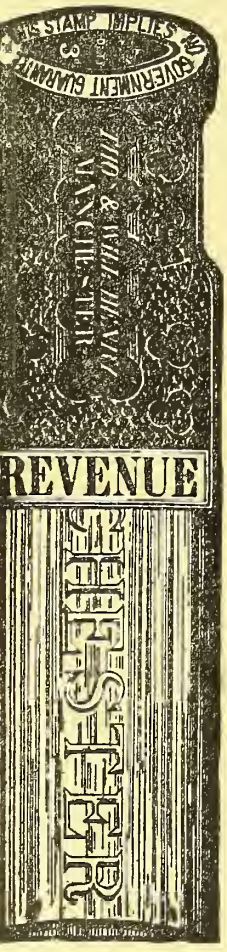
Liq. Barkola Comp., 1-oz.; Tincture of Gentian, 1-oz.;
Syrup of Rhubarb, 1-oz.; Syrup of Ginger, 5-oz.

Chemists charge according to their own scale for dispensing.

THE BARKOLA CO., Ltd.,
42 Great Dover Street, London, S.E.1

ESTABLISHED A.D. 1772.

HENRY'S CALCINED MAGNESIA.



For HEARTBURN, HEADACHE, GOUT,
BILIOUSNESS, ACIDITY OF THE STOMACH, TRY

Henry's Calcined Magnesia

Free from Taste, Smell or Roughness to the Palate.

ADULTS.

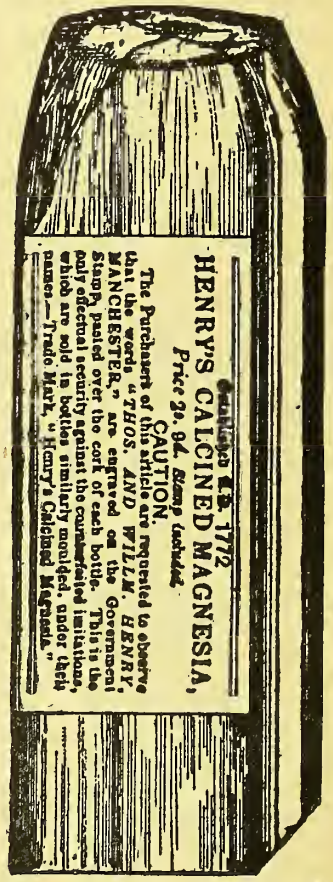
A Safe Aperient for the most delicate constitutions.

CHILDREN.

May be given to children in early infancy. The addition of a small quantity of the Magnesia prevents milk turning sour on the stomach.

MESSRS. THOMAS and WILLIAM HENRY, of Manchester, England, beg to inform the Trade generally that they continue to manufacture their old-established **"CALCINED MAGNESIA" in the Greatest Chemical Purity,** and also wish to warn Buyers against the numerous spurious and very inferior imitations offered in various foreign countries.

For the guidance of the Trade they submit facsimiles of their Bottle, wrapped and unwrapped.



THE LABELS CAN BE HAD IN ENGLISH, SPANISH, PORTUGUESE, OR ITALIAN.

Messrs. HENRY will be pleased to hear from Merchants who are suspicious of any stock in their possession.

THE MAGNESIA MAY BE HAD THROUGH ALL WHOLESALE HOUSES.

Registered Trade Mark:—"HENRY'S CALCINED MAGNESIA."

MESSRS. THOMAS AND WILLIAM HENRY,
11 East Street, St. Peter's, MANCHESTER.

"Milk of Magnesia"

(Registered Trade Mark)

P.A.T.A.

1/3 size - - - **11/-** per dozen.

2/6 „ - - - **22/-** „

Special Terms for 3, 6 or 12-dozen lots.

½-gallon, for Dispensing, **9/-** each net.

"Phospho-Muriate of Quinine"

P.A.T.A.

5/- size - - - **48/-** per dozen.

½-gallon, for Dispensing, **15/-** each net.

Digestible Cocoa

P.A.T.A. - - Per **1/9** Tin - P.A.T.A.

WHOLESALE, **15/-** per doz.

THE
CHARLES H. PHILLIPS CHEMICAL CO.

**14 HENRIETTA STREET,
COVENT GARDEN, W.C. 2.**

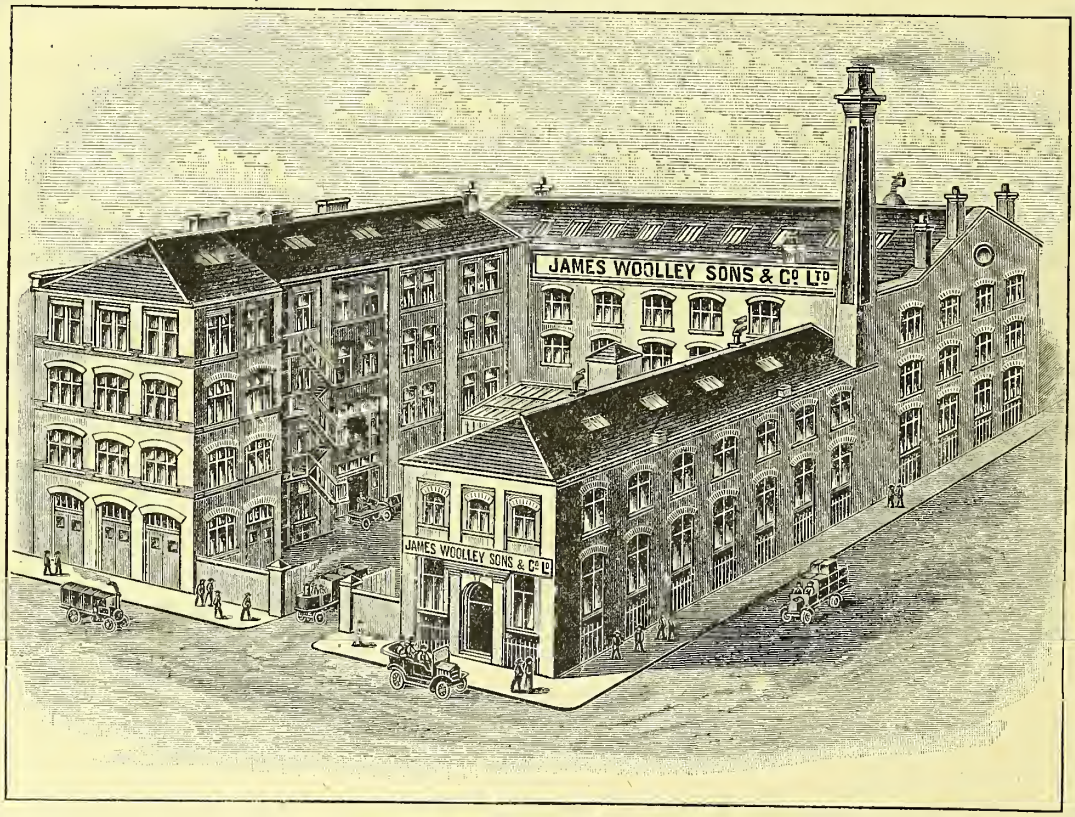
Phone:
GERRARD 275.

Telegrams:
"MILKOMAG LONDON."

Telegraphic Address: "Pharmacy Manchester"

James Woolley Sons & Co. Ltd

MANUFACTURING CHEMISTS,
WHOLESALE and EXPORT DRUGGISTS.



LABORATORIES AND DRUG MILLS.

MANUFACTURERS and EXPORTERS OF
Tinctures, Liniments, Fluid Extracts, and all Medicinal Spirits, Tasteless Coated Pills, Gelatine Capsules, Levigated Ointments, Compressed Tablets, &c.

MANCHESTER.

Foreign and Colonial Indents through British Shippers.

Telegraphic Address: "PHARMACY MANCHESTER"

James Woolley Sons & Co Ltd



MANUFACTURERS AND EXPORTERS OF

Galenical and Pharmaceutical Preparations, Sanitary Rose Powder. Phenate of Soda Solution, Phenoda Tooth Paste, Cresap, Ergoval. Valkasa (NERVE FOOD), Palodine, Laxalin, Boval Floor Gloss, Ozophene, &c.

Microscopes and Photographic Goods, Chemical, Physical and Bacteriological Apparatus. Surgical Appliances, Trusses, Belts, Spinal Supports, Limbs, &c. &c. Makers of the "Boval" Adjustable Trusses, "First Aid" Cases and Ambulance Appliances.

WAREHOUSE, OFFICES & SHOWROOMS: **VICTORIA BRIDGE,**

LABORATORIES & DRUG MILLS: **KNOWSLEY STREET,**

MANCHESTER.

ILLUSTRATED CATALOGUE AND PRICE LISTS FREE ON APPLICATION.

Langley-Smith & Co.

Castor Oils, *Medicinal, Lubricating.*

Colza Oils, *Best Pure, Prepared.*

Linseed Oils,

Best Raw, Double Boiled. Refined,

GENUINE TURPINE
TURPENTINE SUBSTITUTE

Turpentines,
Best Pure Spirits.

Substitutes,
Best Grades.

Samples and Prices on Application.

14-20 St. Mary Axe
London, E.C. 3.

Telegrams—"Tallowdom London." Tel. No.—Avenue 3820.

SALVO PETROLIA

The Perfection of Petroleum Jelly

MANUFACTURED SOLELY BY

THE DEE OIL COMPANY, Ltd.

DELTA WORKS, BOOTLE, LIVERPOOL.

Packed in barrels, kegs and smaller packages according to requirements.

Other Grades
PETROLEUM JELLIES, WHITE BASES, ETC.
Samples and prices on application.

"OLEUM DEELINÆ," a certain cure for Eczema.

Phone: 186 Bootle. *Wires: "Cestrian Liverpool."*

GRASP THIS!!!

HOUSEHOLD PAINTS

(Side lineswhich are profitable to Chemists) and make a satisfied Customer every time.

In 1, 2, 7, 14-lb. Lever Tins, attractively packed with your name and address on,

"Quality Paints," something rather different than "others."

Reliable Oak Varnishes, packed in Pint Tins.

L.H.C. WATER PAINTS (*Lines worth Pushing.*)

Write to-day for Tint Cards and Particulars—

L. HALL & CO.

Paint and Varnish Mfrs., DARWEN.

TUCKER & CROSS

15 ST. MARY AXE, LONDON, E.C. 3.

Telephone: AVENUE 2569.
Telegrams: "GLUCOSE LONDON."

WE SPECIALISE IN

FRENCH GROUND NUT OIL (EMULSIFIABLE)
CASTOR OIL, PHARM. WATER-WHITE
} Barrels 3½ cwt. Tins and Cases of 40 kilos. ea.

WEST INDIAN TAMARINDS. 2½ cwt. barrels.

STOCKS IN LONDON. SAMPLES AND PRICES ON REQUEST.

Tin Canisters

If you want a really first-class article at a low price, send us your enquiries. Large quantities of both lacquered and decorated Stock Design Tins suitable for Health Salts, Ointments, Solid Brilliantines, etc. Must be cleared. PRICE NO OBJECT.

HORNBY & Co. (Dept. T), 36 High St., HULL

S.V.R.

Finest Methylated Spirit

J. M. MILLS

BROOKFIELD DISTILLERY

STOCKPORT

DISTILLER and METHYLATOR

TELEGRAMS:
"ANILINE
STOCKPORT."

TELEPHONES:
2396 } STOCKPORT
2840 }

Established over a Century.

SAMUEL THORNLEY, LTD.

WHOLESALE DRUGGISTS AND DRYSALTERS, OIL IMPORTERS, GREASE AND VARNISH MANUFACTURERS.

Members of the Methylating Company, Limited.

Telephone:
2271 Central (3 lines).

Telegrams:
"TURPS B'HAM."

Head Office:
6 Snow Hill, BIRMINGHAM.
Works - - - Slaney Street, Wharf Street.

Branches:
GOSTA GREEN.
GOOCH STREET.
DERITEND.
JOHN BRIGHT STREET.

PETROLEUM JELLY.

Gough, Kidston & Co.

Chemical Manufacturers,
Tanning & Dyewood Materials & Extracts,
Gum & Wax Merchants,
43/45 Gt. Tower Street, London, E.C.3.

Tel. No.: Avenue 8057. (2 lines).
Tel. Add.: "Kidstonism, Bilgate, London."

WORKS: BERMONDSEY.
Tel. No.: Hop 2029.

H H

Petroleum Jelly

White, Yellow, Amber, & Ruby Red, for all Pharmaceutical and Veterinary purposes

MEADE-KING, ROBINSON & CO., LTD.
LIVERPOOL - MANCHESTER - LEEDS.

Genuine Russian **LIQUID PARAFFIN** — All gravities, correct viscosities

"Jasmine Brand" **ADEPS LANÆ** — **Lanoline** — Superfine Anhydr. and Hydrous

"Jasmine Brand" **PETROLEUM JELLIES** — White and Yellow

B.P. 1914

Finest Qualities

Competitive Prices.

"Jasmine Brand" **WHITE OILS** — **Chem. Pure, Water-white, Tasteless, Odourless**

FOR MANUFACTURING PURPOSES

ALSO TRANSFORMER & INSULATING OILS.

The PURE RUSSIAN LIQUID PARAFFIN CO., Ltd.

3 St. Helen's Place, LONDON, E.C. 3.

Actual Refiners and Manufacturers at their Works near London.

Spirits of Wine

Try the "Extra Rectified" for your Perfumery.

all strengths to

Absolute Alcohol

Duty Paid and Duty Free for Export and Scientific Purposes.

Chemists' Wines

Sherry, Port, Coca, Meat and Malt, Orange, Orange and Quinine, Champagnes.

Write for Samples and Quotations.

Jas. Burrough Ltd.

D1 Cale Distillery, Hutton Road, LAMBETH, S.E.11.

Telegrams: "BURROCALE, PHONE, LONDON." Telephone: HOP 3436 (3 lines).

Established at Chelsea 1820.

FRANCIS F. FOX & Co.

BRISTOL

OILS

CHEMICALS

DRYSALTERY

Prices on Application.

TELEGRAMS—
"FOX BRISTOL."

TELEPHONE—
19 BRISTOL.

The Standard of Purity

STERNS

Liquid Paraffin B.P.

Colourless, Tasteless, Odourless.
All Specific Gravities.

Petroleum Jellies B.P.

White, Lemon, Yellow, Amber, Red, Green.

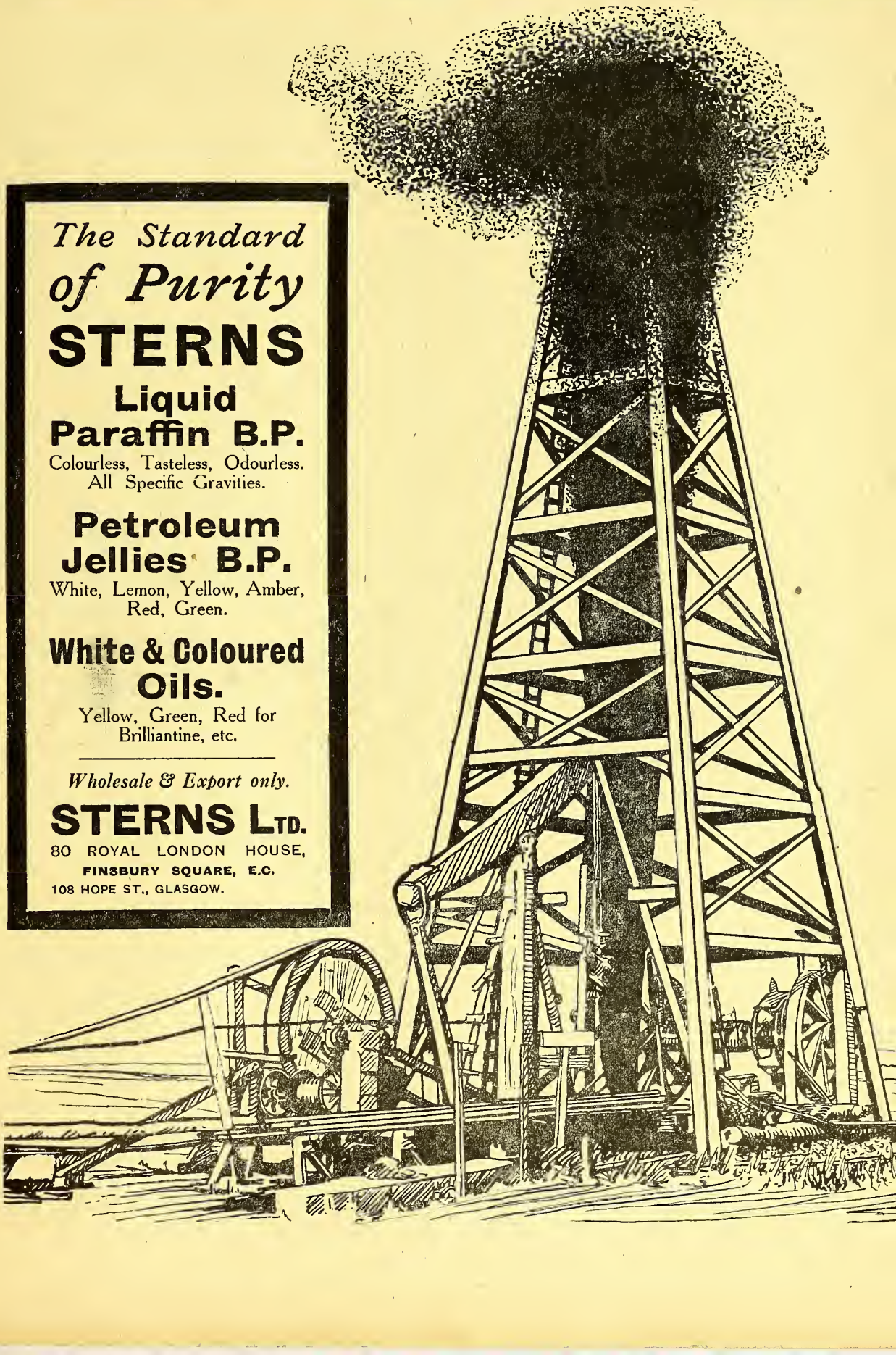
White & Coloured Oils.

Yellow, Green, Red for Brilliantine, etc.

Wholesale & Export only.

STERNS LTD.

80 ROYAL LONDON HOUSE,
FINSBURY SQUARE, E.C.
108 HOPE ST., GLASGOW.



Good Profits—Rapid Sales

BY SELLING

G.O. LEMONADE

(No Sugar Required).

THE **BUSY SEASON** is here, so place your order **NOW** for G.O. Lemonade to avoid loss of sales. A 2d. packet makes a quart, a 3½d. makes two quarts, and a 6½d. makes one gallon of splendid Lemonade by simply dissolving in cold water.

***BONUS PARCELS*— may be varied to customers' requirements so long as they total £3 or £6 in value.**

Less 2½% for Cash with Order.

BONUS PARCELS.

The two following suggested BONUS PARCELS comprise all the sizes and show you a clear Profit on Turnover of over 33⅓ per cent.

£3 PARCEL—1 gross 2d.	=	17	6
6 dozen 3½d.	=	15	0
2⅔ ,, 6½d.	=	11	9
1½ ,, 1/3	=	15	9
		£3	0 0

BONUS—1 doz. 6½d., in payment for display.

£6 PARCEL—1 gross 2d.	=	17	6
2 ,, 3½d.	=	3	0 0
6 dozen 6½d.	=	1	7 3
1½ ,, 1/3	=	15	9
		£6	0 6

BONUS—2½ doz. 6½d., in payment for display. Sent Carriage Paid direct for cash with order, or through your Wholesale house.

The GREENWICH LEMONADE CO.

(J. Milner, M.P.S., Proprietor)

NOTE ADDRESS—**11 JOHN PENN STREET, LONDON, S.E. 13.**

WINCARNIS

Sells readily ALL the time.

COLEMAN & CO., Wincarnis Works, NORWICH.

IMPORTANT NOTE TO CHEMISTS WITHOUT LICENCES

It has been established by law that Registered Chemists may sell "Wincarnis with Quinine" *without* a licence.

ATKINSON & BARKER'S INFANTS' PRESERVATIVE

THE BEST AND SAFEST INFANTS' MEDICINE OF OVER 120 YEARS' STANDING.

Prices and Terms on application to R. BARKER & SON, Ltd. 13 Wesley St., C.-on-M., MANCHESTER.

DOES NOT CONTAIN any SCHEDULED POISON.

POTTER & CLARKE, Ltd.

60, 62, 64 Artillery Lane, London, E.1

And at 24 Luna Street, Great Ancoats, Manchester.

TRADE MARK

CRUSH-LEMON

CRUSH-LEMON

THE NEW LEMONADE POWDER. SUGAR SWEETENED.

A Cool Drink for Hot Summer Days.

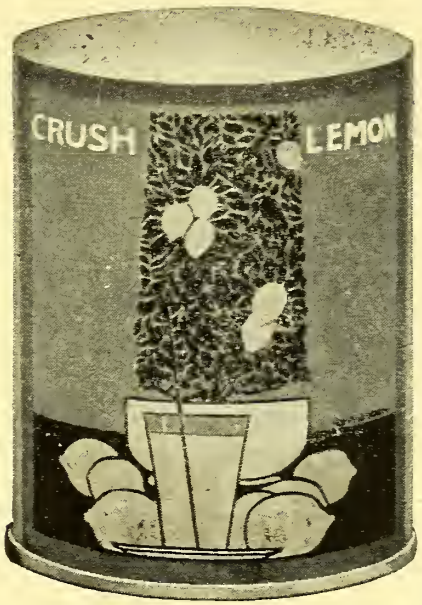
A Teaspoonful makes a Glass of Lemonade.

Smart Showcard with all orders.

Label in six colours.

A triumph of artistic skill which sells the line for you.

A line for Discriminating Buyers.



Makes an artistic window show.

Gives good value for money and good profit to retailer.

PACKED IN ONE SIZE ONLY.
8-oz. tins (as illustrated) retail **1/3** each; **10/6** dozen.

6-dozen lots, **10/3** dozen.

1-gross lots, **10/-** dozen.

On gross lots, 50 per cent. profit on cost.

CRUSH-LEMON

LEMONADE CRYSTALS.



SWEETENED.

9d. Bottles in Smart Carton, 6/- doz.

MAKES 2 GALLONS.

Customer's own name and address on special carton on orders for 1 gross.

SELLS ALL OVER THE WORLD.

Send for a copy of Potter & Clarke's Illustrated List.

CAMWAL Ltd.

Remunerative Lines Strongly Recommended to Chemists.

Aquaperia Water
Aquaperia Salts
British Wines, Cordials.
Lemonade Powder
Fruit Jelly Crystals
Mineral Waters

Harrogate Aperient Water supplants Foreign Waters of similar character. Handsomely got up. 32-35 oz. Bottles. P.A.T.A.

Contains the Active Medicinal Salts of the above water in concentrated form.
In High-class W.M. 5-oz. Bottles and Carton. P.A.T.A.

Unrivalled for quality. Pure Fruity Flavour.

As supplied to H.M. Government during the Great War. Has the real fruit flavour; dissolves instantly and requires No Sugar.

A perfect Table Jelly with the true flavour of Fresh Fruit and of crystal clearness.

Maintain The Premier Position for Quality to-day as they have done for the past 40 years.

City Office: 52 Queen Victoria St., E.C.4

"CAMWAL" LTD., London, Harrogate, Manchester, Birmingham, Bristol & Mitcham



Saint-Raphael

Tonic, Restorative, Digestive Wine.

Known throughout the World, and prescribed in all cases of ANÆMIA, DEBILITY, and CONVALESCENCE, to Young Women, Children and the Aged.

DOSE: One wine-glass after the two principal meals.

Recommended by—
Prof. BOUCHARDAT, Professor of Hygiene, Paris Faculty of Medicine.
Dr. MacNAUGHTON JONES, London, England.

"For more than thirty years St. Raphaël Wine has been exclusively prescribed, with success, in the Paris hospitals as a pure tonic, by eminent physicians, such as Magendie Roston Chomel, Velpeau, Requin, Monneret, Trousseau, Grisolle, Laënnec, &c."—*Union Médicale*, May 8 and June 12, 1873.

"The 'Vin de St. Raphael' is often used for ladies nursing their own children; it is preferable to stout, which creates an unhealthy fat."—*The Lancet*, London, England.

"St. Raphaël Wine is most precious in all cases where it is necessary to give tone to the system, without effort or shock."—Dr. C. Des Barres.

Cie du VIN SAINT RAPHAEL, Valence, Drome, FRANCE.

To be obtained from all Wholesale Druggists.

If you want good value in

FOREIGN AND BRITISH WINES.

"CROWN" Brand
LIEBIG'S MEAT & MALT WINE.

"WIN-FERRO"
TONIC BLOOD WINE.

LIME JUICE CORDIAL AND LEMON SQUASH.

For Prices & Samples write to—

LAMB & WATT Ltd.
(Established 1847)
48 St. Anne Street - Liverpool.

Highest Awards at all International Exhibitions where shown.

Millar's

Pure

Orange

Wine

Prepared in strict accordance with the Formula of the British Pharmacopœia.

A. MILLAR & CO.
LIMITED

DUBLIN

Wholesale Only.

London Agent: James Stirton, 43 Gt. Tower St., London, E.C. 3

BISHOP'S NATURAL FRUIT SALINE

What it is.

BISHOP'S
Natural Fruit Saline

is free from sugar or saccharine, yet makes a delightfully palatable beverage. Clears the liver and kidneys, and acts as a mild aperient. It is manufactured in small granules and keeps well in any climate.

It pays to push BISHOP'S !



What it costs.

BISHOP'S
Natural Fruit Saline

retails at **2/3** per bottle P.A.T.A.

Wholesale price, **20/-** per dozen.

5 dozen - - **£5 0 0**
10% discount **10 0**
Net **£4 10 0**

Carriage Paid.

Thus showing a profit of **9**d. per bottle.

Attractive show material and price cards sent with each order.

PREPARED ONLY BY **ALFRED BISHOP, LIMITED, 48 Spelman St., LONDON, E.1**

Dr HALE'S
VIN-SANGUIS
WINE FOR THE BLOOD

Fountain of Health

If you have a Wine License we will pay the fee. If not, get one, we will pay license. *Send for any*

You agree to display "Vin Sanguis" always. You give us an agreed initial order. You always keep stock *further particulars*



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Transcontinental Agencies Ld.
14, Southampton St., London, W.C.2.

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BIRMINGHAM, BRADFORD, LIVERPOOL, MANCHESTER, NEWCASTLE-ON-TYNE.

Foreign Bills and Cheques are collected, and approved Bills purchased. Letters of Credit and Circular Notes are issued, and Foreign Currency Drafts, Telegraphic Transfers, and Letter Payments, available in all parts of the world, can be obtained from the principal Branches.

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Note Reduced Prices!

BEEF & MALT WINE

(Wine Licence required)

Prices: Small Size (12 to Gallon) **26/-** doz.
Large Size (6 to Gallon) **38/-** doz.

BEEF & MALT WINE
WITH QUININE

(Can be sold by Chemists without Licence)

Prices: Small Size (12 to Gallon) **28/-** doz.
Large Size (6 to Gallon) **42/-** doz.

We import the Wine specially for the manufacture of this Beef and Malt Wine, and offer a sound and well-flavoured product at the cheapest possible price consistent with the excellent quality.

We have a variety of labels, and would be pleased to submit same to you for your selection, together with a sample of the Wine.

C. R. HARKER, STAGG & MORGAN, LTD.
DEVON WHARF and BELL WHARF,
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NEW LINE—NOW READY

Maltine
REGD. TRADE MARK

with **PARAFFIN**

In Powder Form. The Best Corrective for Constipation.

Price 3/- & 5/6 less 25%

THE MALTINE MANUFACTURING CO., Ltd., ACTON VALE, LONDON, W.

SUGAR CHEAPER

THIS MEANS THAT

Mason's Extract of Herbs

Will be in big demand this season

and chemists are requested to replenish their stocks.

Send for Price List to

Newball & Mason

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TRADE MARK

ESTABLISHED 1785

R. J. F. & B.'s world-renowned preparations command the largest sale in Great Britain and are used and recommended at the

PRINCIPAL DAIRY INSTITUTES.

R. J. FULLWOOD & BLAND'S

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AND

RENNET

RENNET WORKS, ELLESMERE, SALOP.

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all over the country



The publicity of the world-famous corrective, Kutnow's Powder, is no small affair. Its comprehensive advertising campaign covers the whole country, repeatedly reminding the entire British Public of the health-aiding values of this palate-pleasing corrective, and constantly introducing it to entirely new customers by means of thousands of free samples.

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If you are not, it is because you do not stock Kutnow's, and your trade rival is consequently reaping a rich harvest which might be yours.

Kutnow's Powder

"DEER LEAP" REGD. TRADE MARK

S. KUTNOW & CO. LTD.,
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ASK YOUR WHOLESALE DEALER FOR FULL PARTICULARS.

Specialities

COD LIVER OIL

AGENTS FOR AARSAETHER'S FINEST PURE NORWEGIAN (LOFOTEN),
(in 25-gallon tin-lined barrels).

QUICKSILVER

(in original iron bottles).

GUM ASAFŒTIDA
GUM TRAGACANTH
BROMIDES
CANNABIS INDICA
CASTOREUM
PERMANGANATE of POTASH B.P.
PETROLEUM JELLY
QUININE
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STROPHANTHUS SEED
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We are *first hands* for these articles, and solicit the favour of your esteemed enquiries.

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ESTABLISHED 1887.

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Telephone: CENTRAL 12513.
Codes used, ABC 4th & 5th Editions, and Private.

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Fine Leaf Gelatine, Pure Calf.

"Albion" Brand (In 1-lb. Packets, 112×1-lb. to Case)

Made in England.

FINE CRYSTAL GELATINES.
PURE SKIN GELATINES.
POWDERED GELATINES.

Samples on Application.

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THE SAN-A-GEN 7 AIDS TO HEALTH

1 THE ALWAYS BRITISH NERVE FOOD



SIZES, PRICES AND PROFITS

4 oz.	Costs 2/-	Sells 3/-	**PROFIT 1/-**
8 oz.	Costs 3/4	Sells 5/-	**PROFIT 1/8**
16 oz.	Costs 6/4	Sells 9/6	**PROFIT 3/2**

2 **SCOTT'S SAN-A-GEN DIETETIC BISCUITS**
Tonic, Digestive (for Weak Digestion, Faintness between Meals, Dyspepsia, Heartburn, Indigestion and Flatulence) **Anti-Diabetic and Anti-Obesity Biscuits.**

3 **SAN-A-GEN SOLUBLE ASPIRIN TABLETS**
Free from the toxic effects of many ordinary brands of Aspirin. In sealed bottles of 36 Tablets.

4 **SAN-A-GEN DIGESTOIDS**
An excellent corrective for all gastric conditions. In sealed bottles of 36.

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For making Nasal Douches for the cure of catarrhal and other conditions. In sealed bottles of 50.

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For the throat. In sealed bottles of 50.

7 **SAN-A-GEN NOTAN TEA TABLETS**
Contain no tannin—one tablet makes an excellent cup of tea. In sealed tins of 100 Tablets.

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SANAGEN CO., LTD.,
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Telephone: *HOP 1354.*

Telegrams: *"PHOSAGLYC LONDON."*

Sister Lauras Food

If you stock this Food you know of its wonderful success—know that it is better than we state.

If you have not tried it, order from your wholesaler now, and test it.

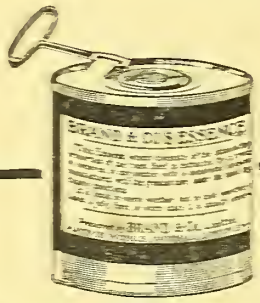
It is a quick seller with a good profit—and it always brings repeat orders.

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Special Terms to Retailers purchasing Wholesale quantity with Window Display.

Order through your Wholesaler to-day, or write now for sample, showcards, etc., to—

SISTER LAURAS INFANT & INVALID FOOD CO., LTD.
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Brand's Essence

of BEEF, MUTTON or CHICKEN

ESSENTIAL IN THE SICK ROOM

Sold by all Chemists and Stores.

BRAND & Co., Ltd.
Mayfair Works, Vauxhall, London, S.W.8.
MAKERS of the ORIGINAL A1 THICK SAUCE.

VITMAR

The new vitalising food proved to contain the three principal vitamines

YOUR WHOLESALERS CAN SUPPLY YOU

Manufacturers: *Food Specialists,*
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RASPBERRY VINEGAR.

MADE ENTIRELY FROM THE FINEST RASPBERRIES & REFINED SUGAR.

Guaranteed free from synthetic ethers or artificial colouring matter. Sp. Gr. 1.3. Full Flavour.

Conforms strictly with the various requirements of the Food and Drugs Act.

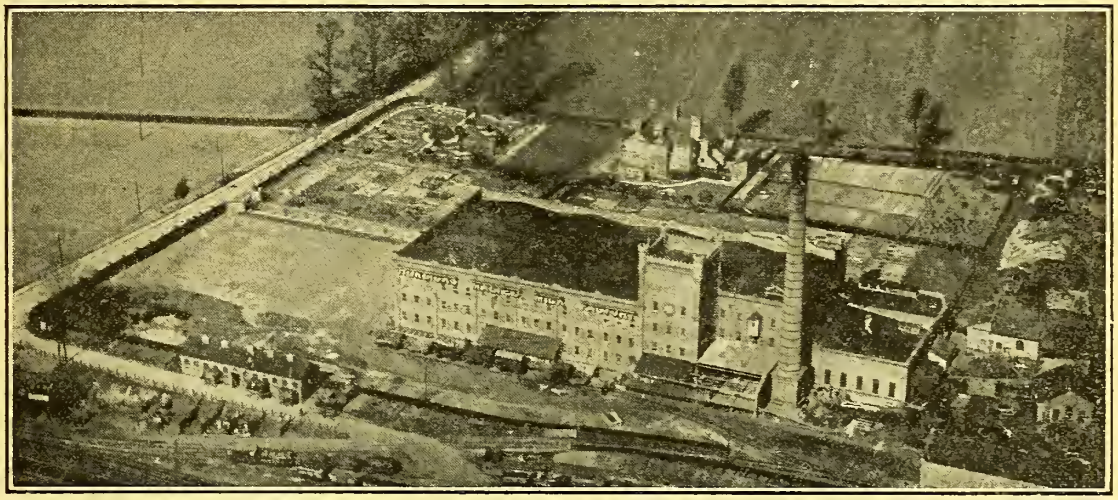
PRICE 15 lb. NET.
Carriage Paid on 28-lb. Orders.

28 lbs. in Fine Wicketed Stoneware Bottle. Carriage Paid, for 49 - net.

BRATBY & HINCHLIFFE, Ltd.
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HORLICK'S MALTED MILK

THE ORIGINAL



An aerial view of the works at Slough, Buckingham, England, where all the

HORLICK'S MALTED MILK

Supplied in Great Britain is Produced.

PRICE PROTECTED - - 2/-, 3/6, 15/-

Attractive Advertising Material Free and Carriage Paid on application to

HORLICK'S MALTED MILK CO.

SLOUGH, BUCKS, ENGLAND.

(Sir James Horlick, Bart., President.)

WM. WARNE & CO. LTD.

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MANUFACTURERS.

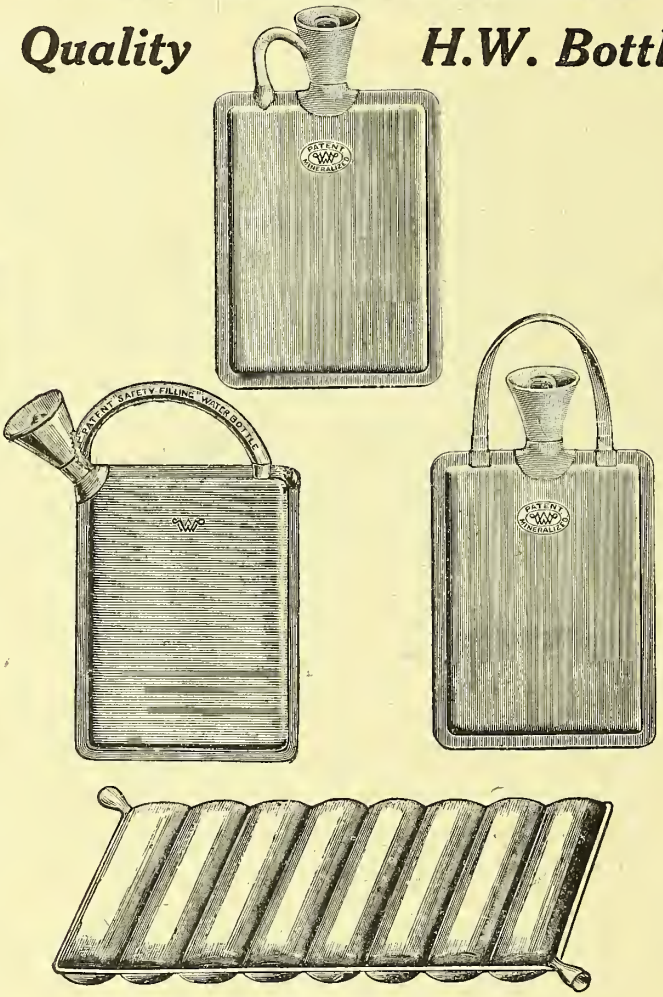
Best Quality *H.W. Bottles.*

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TRADE MARK.

Manufacturers of every description of
SURGICAL, CHEMICAL, SPORTS GOODS, DOMESTIC, VETERINARY, and MECHANICAL ARTICLES, SYRINGES, ENEMAS,





MANUFACTURERS OF EVERY KIND OF
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WATER BEDS and CUSHIONS, THREAD, HOSE, TUBE, TOBACCO POUCHES, MATS, BANDS, WATERPROOF GARMENTS, &c.



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To be obtained also from the Druggists' Sundries' Houses.

Wm. WARNE & Co. Ltd.

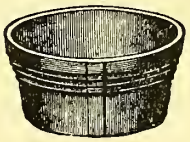
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Patentees of the New Moulded Enema, &c.











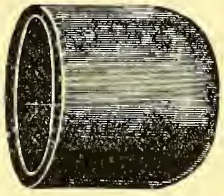


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WATER BEDS and CUSHIONS, THREAD, HOSE, TUBE, TOBACCO POUCHES, MATS, BANDS, WATERPROOF GARMENTS, &c.











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A SATISFIED CUSTOMER IS THE CHEMIST'S BEST ADVERTISEMENT

The Marvel Whirling Spray Syringe



Gold Medal Awarded, Paris, 1902, by the Société d'Hygiene of France

as the latest and best improvement in Vaginal Syringes. Particular attention is called to the fact that by reason of its peculiar construction the Marvel Syringe dilates and flushes the vagina with a volume of whirling spray, which smooths out the folds and permits the injection to come into contact with and cleansing the entire surface.

Fully Protected by Patents.





You can safely recommend it.

Has no rival on the market, is well advertised, pays a good profit, quality guaranteed. The MARVEL is returnable for exchange if found defective and reported promptly.

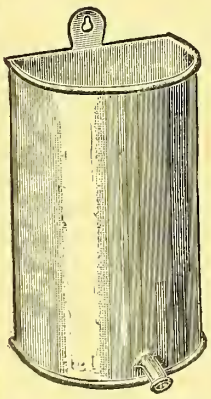
Trade price, 125/- per doz.

Retail price, 15/- each.

FASSETT & JOHNSON, Ltd.

86 Clerkenwell Rd., London, E.C. 1.

Enamelled Hospital Requisites



China White Enamelled Steel

DOUCHE CANS

Bent spout which prevents rubber kinking.

2, 3, 4 & 6 pints

With front handle if required.

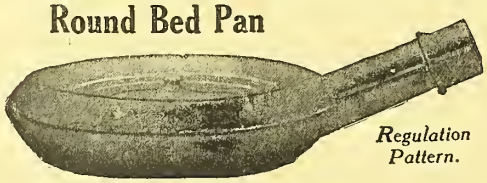
Male URINALS

(939 B)

Only pattern made.

IMMEDIATE DELIVERIES

Round Bed Pan



Regulation Pattern.

ACTUAL MAKERS :

ORME, EVANS & CO. Ltd., Elgin Works, WOLVERHAMPTON (1)

Southalls' Towels

for Ladies

	Trade gross	Retail dozen
Size 0 ...	8/6 ...	11d.
,, 1 ...	11/6 ...	1/3
,, 2 ...	14/7 ...	1/7
,, 3 ...	18/6 ...	2/-
,, 4 ...	20/9 ...	2/3

COMPRESSED—	Trade gross	Retail each
A ...	13/11 ...	1½d.
B ...	18/6 ...	2d.
C ...	23/1 ...	2½d.
D ...	27/8 ...	3d.

N.B. Southalls are pleased to announce that they are able to revert to the **PRE-WAR** practice of using **WHITE WOOL** back and front for all towels except Size O. The towels are consequently better in appearance, more effective, and much cleaner. The Size O will also be made with white back at the earliest opportunity if the costs permit.

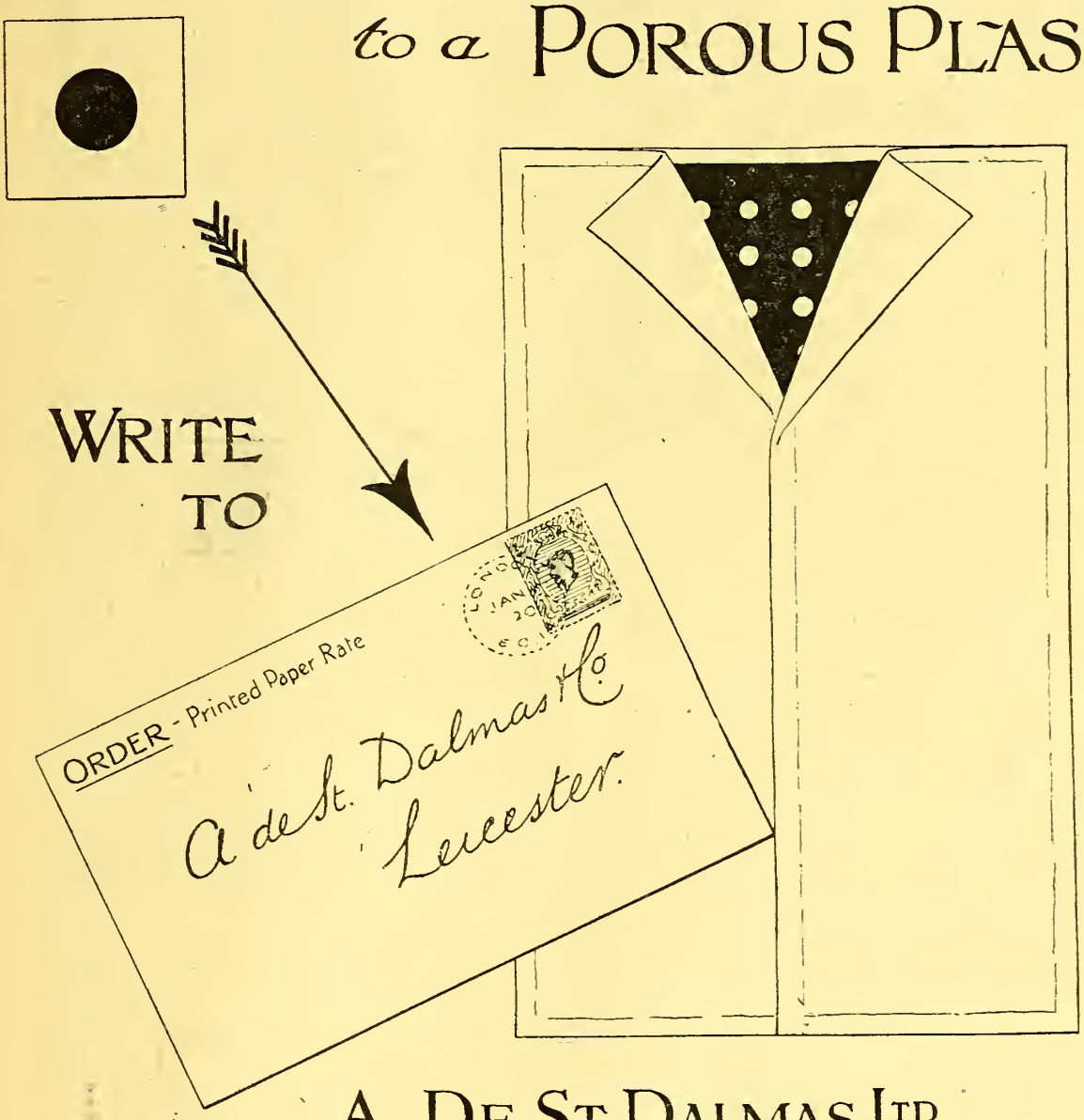


Trade Mark.

Write for booklet, "Comfort and Hygiene," free from Lady Manager, 17 Bull Street, Birmingham.

For Everything in PLASTERS

from a CORN DISC *to a* POROUS PLASTER



A. DE ST. DALMAS LTD.

Manufacturers of all kinds of Lead & Rubber Base Plasters

LEICESTER

SAYERS, SILCOX, GUZNER & Co. Ltd.
HULL.

THE
TRUSS
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ARE ALSO MAKERS OF

BELTS, CORSETS
SUSPENSORY BANDAGES
CHEST EXPANDERS
CHEST PROTECTORS
PNEUMONIA JACKETS
WRIST-STRAPS
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and all similar articles.

LOWEST PRICES.
IMMEDIATE DELIVERY.

CURASOL
THE ORIGINAL
Boracic Socks

Fixed Selling Price, 6d. per pair.
Cost, 4/- per dozen.
Six dozen lots, 46/- per gross.

Distributing Agents:

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For Sample Pair (state size) send Postcard to—

The Curasol Sock Co.
19/20 Garlick Hill · · LONDON, E.C.4.

We are in a position to offer
SURGICAL INSTRUMENTS & APPLIANCES,
RECORD SYRINGES,
ALL-GLASS, HYPODERMIC AND
DENTAL SYRINGES.

HIGHEST QUALITY AND FINISH.
Delivery from stock. Price List sent upon application.

RAOUL FRÈRES
Manufacturers and Exporters
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EXCELSIOR CREPE BANDAGES. FAST EDGE.

EXCELSIOR CREPE BANDAGE
TRADE MARK
NAME

Owing to the War the supply of Crepe Velpeau Bandages is discontinued. We, are, therefore, placing on the market a bandage of English manufacture which will be sold as

GIMBER'S EXCELSIOR
CREPE BANDAGE

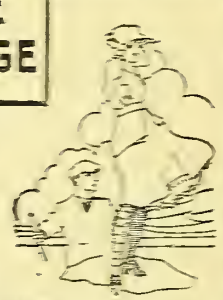
An Elastic Bandage. Containing no Indiarubber. Superseding Elastic Stockinet. Width, Bandages, and at half the cost. Three sizes, about 2, 3½, and 5½ inches wide. Excellent Crepe Abdominal Binders.—Useful after many Abdominal Operations, and for ladies after confinements. Two sizes: 8 & 12 in. wide.

CAUTION.—Beware of fraudulent and useless imitations, and reject all Bandages not bearing the above Trade Mark in the Wrapper.

Wholesale of
W. GIMBER & SON, Surgical Bandages and Instrument Makers, 44 Queen's Rd., Peckham, LOND'N, S.E.15,
And of all Wholesale Druggists, Chemists, Surgical Instrument Makers, &c.
Telephone: New Cross 1801. Descriptive Circular & Price List on application.

"NORVIC" CRÉPE BANDAGE
(Regd.)

SUPERIOR ENGLISH MANUFACTURE. FAST WOVEN EDGES.
Extremely Elastic, but contains no Rubber.



Most comfortable to wear. Long lasting.

The NORWICH CRAPE CO. 1856 Ltd. (ST. ANDREW'S SILK MILLS), Norwich, Eng.

Provincial Selling Agents, Fyfe & Mann, Ltd., 73 Bermondsey Street, London, S.E.1.
London Buyers can obtain samples & prices from Mr. T. Eastaway, London Representative, 7 Wool Exchange, E.C.2.

Surgical Dressings

Packed to suit Customers' requirements.

Special Quotations for Large Quantities.

ABSORBENT GAUZES

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Careful Mothers
insist on the
NESTLÉ FEEDER

The superiority of the Nestle Feeding Bottle is so obvious that doctors are advising it, nurses are recommending it and mothers insist on having it. Nothing is good enough for their little ones but a bottle which is perfect in hygienic construction; which cannot possibly harbour dirt or disease germs and which ensures that the food is taken without undue effort or excessive air.

Nestlé's Feeding Bottle is constructed throughout on scientific principles, it is impossible for the child to detach the teat and rubber valve which automatically close and are made from pure vitamin rubber. Colic is prevented because the flow of air behind the milk is systematically regulated. The feeder, made of virgin glass, can be tilted to and will remain at any desired angle. Its capacity is 10-oz., and every part, including the box, is thoroughly sterilized before leaving the factory.

NESTLÉ
Feeding Bottle

the Cheapest full-sized Feeding Bottle on the Market.

Easy to sell; brings good profit and rapid turnover. Write to-day for full details and current trade price list.

NESTLÉ'S (Advert. Dept.),
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ON P.A.T.A.

RIGOLLOT'S
MUSTARD LEAVES

FOR PLASTERS.
THE ORIGINAL.
THE **ONLY** GENUINE.

7d., **1/- & 1/7** Packets
5/3, 9/-, 14/3 per Doz.

GUYOT-GUENIN & SON
67 Southwark Bridge Road
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TOMPKINS' CORNER

TOP VALUE IN

Bathing Caps



CHECK WATERPROOF. CIRCULAR. 8 - doz.

ALL-RUBBER Fancy designs from 10/6 doz.

ALL-RUBBER Helmet Shape STOCKINETTE BANDS from 20 - doz.

SPONGE BAGS from 4/6 doz.

WATER WINGS from 15 - doz.

A postcard will bring you samples on approval.

SPECIAL VALUE—Oiled SILK Sponge Bags.

Size	1	2	3	4	5	6
	6 -	7/-	8/6	10 -	12 -	15 - per dozen.

SURGICAL RUBBER GOODS of all kinds.

JAMES TOMPKINS, LTD.
THE RUBBER HOUSE.
386 City Road - LONDON, E.C. 1.
Established 44 years. Phone: City 7640.

Swales *for* Sundries

A Reliable Sundry House for Provincial Pharmacists.

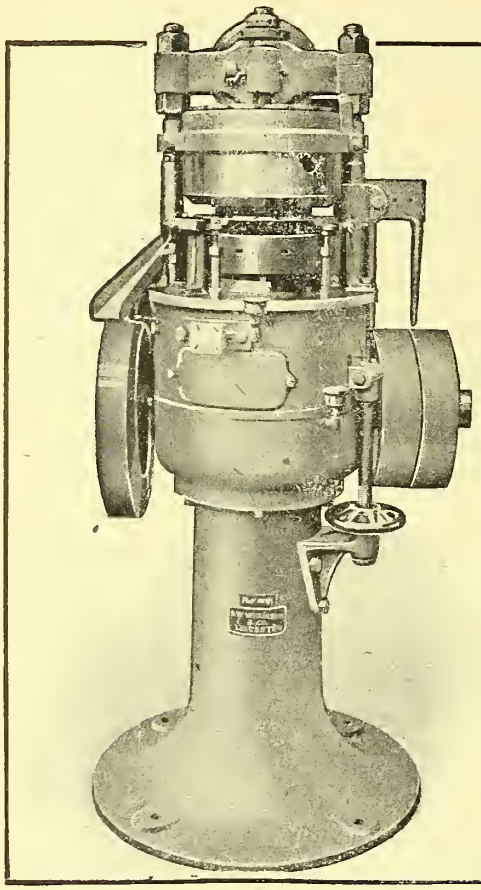
Yorkshire is the county of broad acres, and Leeds is the city of twenty-six industries. Geographically, Leeds is eminently suited as a centre for the distribution of all products—being near the "Heart of England."

The House of THOMAS SWALES has attained to its present position by the high quality of its goods. Having recently added an adjoining warehouse, thereby doubling the floor area, it is enabled to deal with all orders with promptness and despatch. The specialities of the House under the "HOWARD" brand are well known and carry the stamp of reliability.

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20-24 Butts Court, & 89 Albion Street, LEEDS.

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ROTARY TABLET MACHINES

The 20-Punch (PATENT) **The 12-Punch**

Machine is suitable for tablets from ¼" diameter up to ½" diameter. Output up to 700 tablets per minute.

Lists on Application.

Machine is suitable for tablets from ⅜" diameter up to ⅞" diameter. Output up to 400 tablets per minute.

DURING the war these Machines ran 16 hours a day non-stop.

SINGLE punch machines, made in 5 sizes for tablets from ⅛" to 1½" diameter, also lozenges.

S. W. WILKINSON & CO.

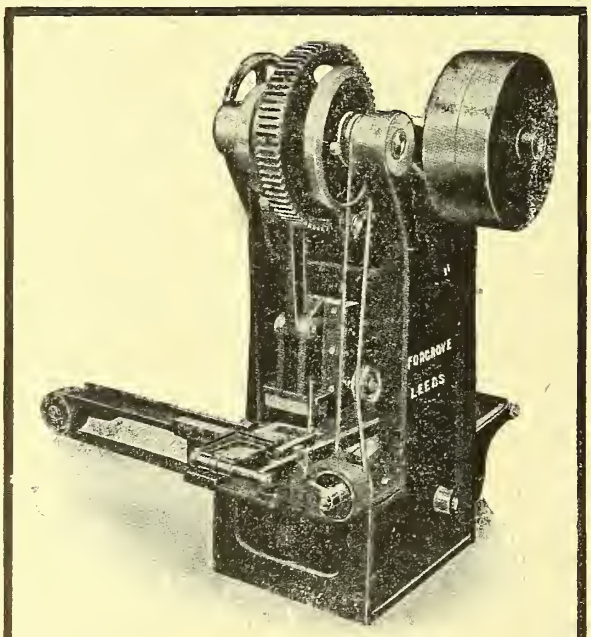
PHARMACEUTICAL ENGINEERS,

Telephone: 3783 Central.

WESTERN ROAD, LEICESTER.

Telegrams: "Wilkinson, 3783, Leicester."

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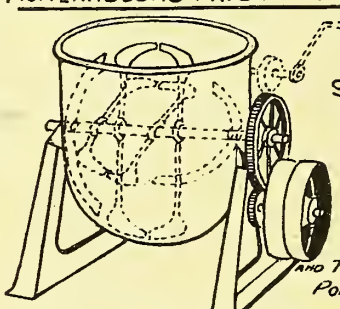


SOAP STAMPING MACHINES.

Output, 50 pieces per minute.

THE FORGROVE MACHINERY CO., LTD.
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"ROWLANDSONS PATENT MIXING MACHINE."



MADE IN ALL SIZES FROM 9" DIA: TO 6'-0" DIA:

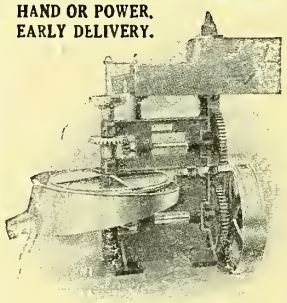
LIGHTNING MIXING RAPID EXHAUST

POWDERS AND LIQUIDS.

PLAIN, JACKETTED, AND TIPPING MACHINES POWER AND HAND.

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HAND OR POWER. EARLY DELIVERY.



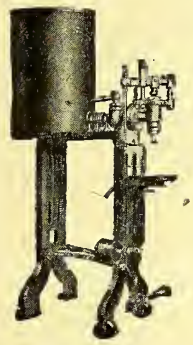
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GRIMSLEY PILL-ROUNDING MACHINE

And complete installation for manufacture of Pills, etc.

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St. George's Engineering Works, Queen Street, LEICESTER. (2)

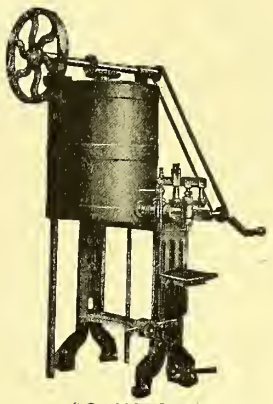
ROBERTS' PATENT BOTTLE FILLING MACHINES



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We can supply machines to fill any type of receptacle with any kind of liquid or semi-liquid. Send us your requirements and ask our advice.



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SAVE WAGES & MATERIAL

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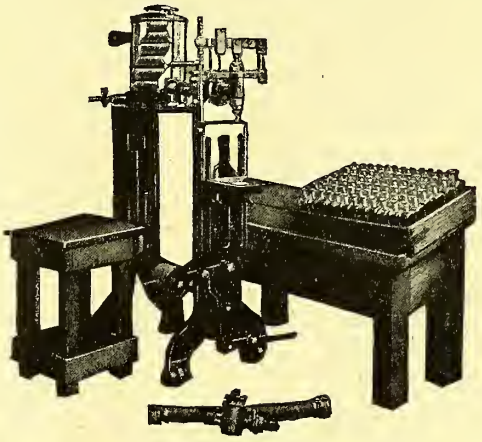
I had a visit from one of our customers this morning to see your machine work. I think he was very favourably impressed. He expressed great surprise at one girl and one machine doing all our filling. I told him that we could fill a gross of bottles of sauce with the machine whilst one of his girls would be filling a dozen castor oils by hand; that for his purpose the machine was ideal. What a boon your machine would be to him!

I emphasised the fact that the real rationale of your machine is in the instantaneous cut-off, and for this reason the machine is always waiting on the operator, never the operator on the machine—no matter how hard you drive the machine is ready.

Hoping you may succeed in convincing this firm of the real merit of your most ingenious machines,

Faithfully yours,

— —"



"VICTOR".

Messrs. W. & T. Owbridge, Ltd., Hull, write:

"Four girls fill in 2 hours 80 gross $2\frac{1}{4}$-oz. bottles, which works out at 1,440 bottles per girl per hour. Our forewoman says, if in a racing mood, they can finish in a quarter of an hour less."

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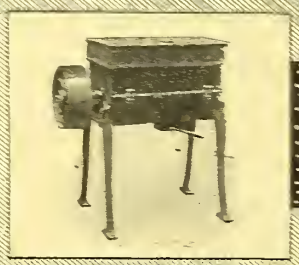
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Telegrams: "Filling Bolton."

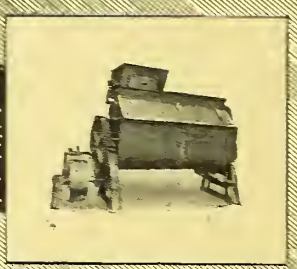
Code: A B C, 5th Edit.

Works: 33 Roundcroft St., BOLTON

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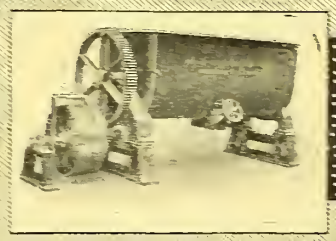


"ATLAS"
PATENT



Mixers & Sifters

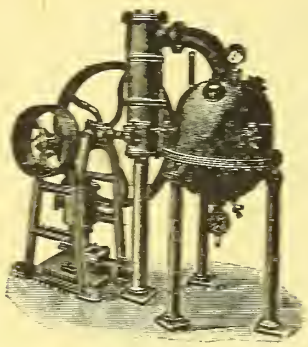
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Jones' Non-Curling Gummed Paper

A FEW of the MANY PATTERNS of GARDNER'S PATENT "RAPID" SIFTERS AND MIXERS.

Used for everything "SIFTABLE" or everything "MIXABLE."

STANDARD PATTERN combined Machines (Figs. 1 to 4) will at one operation thoroughly Sift and Mix all dry powders, and reduce to powder and sift any that contain lumps. Largely used for **Drugs, Chemicals, Acids, Baking Powder, Self-raising Flour, Cattle Foods, Sugar, Colours, Sherbet, Coffee, Flour-blending, Disinfectants,** and all kinds of Medicated Powders. Also for the preparation of High Explosives.

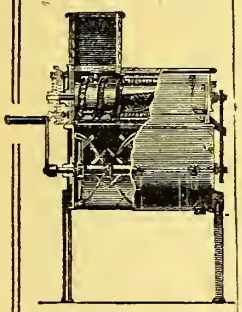


FIG. 1.
Sizes for Hand Use.

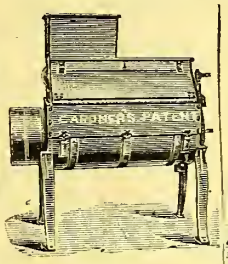
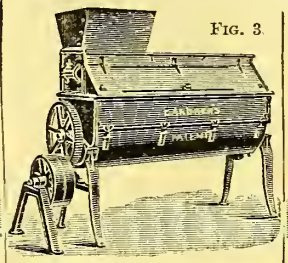


FIG. 2.
Power Sizes with Pulleys.

FIG. 3



Pulley and Gear Drive.
The type recommended for Power users.

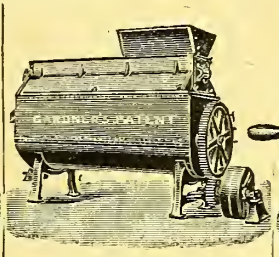


FIG. 4.
Large capacity Power-driven Machines.

CABINET Pattern.

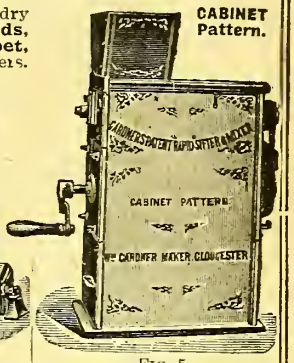
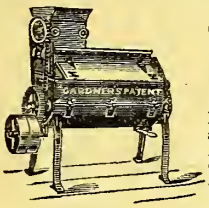


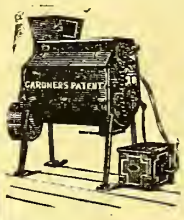
FIG. 5.
For Counter use and small quantities.



GARDNER'S Patent "RAPID" SIFTER, MIXER, AND CRUSHER.

FIG. 6.

For breaking down large and hard lumps in **Sugar, Acids, Chicory, Salt, Colours, Soda,** small enough to be reduced, sifted, and mixed afterwards.



GARDNER'S Patent "RAPID" SIFTER, MIXER, AND ESSENCE SPRAYER.

FIG. 7.

For adding **Liquids, Essences, Flavourings, Liquid Colours, Oils, &c.,** to **Sugar, Acids, Flour, Face Powders, Disinfectants, Seasonings,** and many kinds of Powders and Crystals during Mixing.



FIG. 8.
Open Bottom Pattern.

GARDNER'S Patent "RAPID" SIFTERS (Figs. 8 to 12) **(Power Sizes)** sift any kind of Dry Powders, and reduce to powder any that may be lumpy, such as **Tartaric Acid, Bicarbonate of Soda, Magnesia, Arrowroot, Sugar, Flour, Colours, Sheep Dip, &c.**

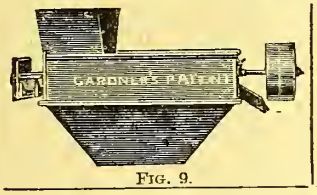


FIG. 9.

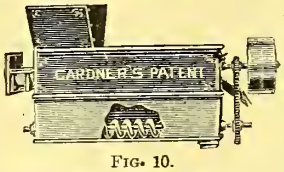


FIG. 10.

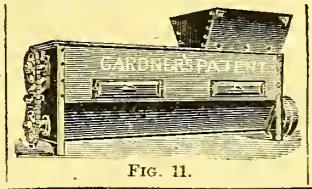


FIG. 11.

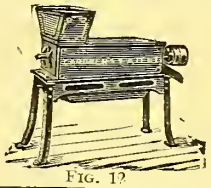
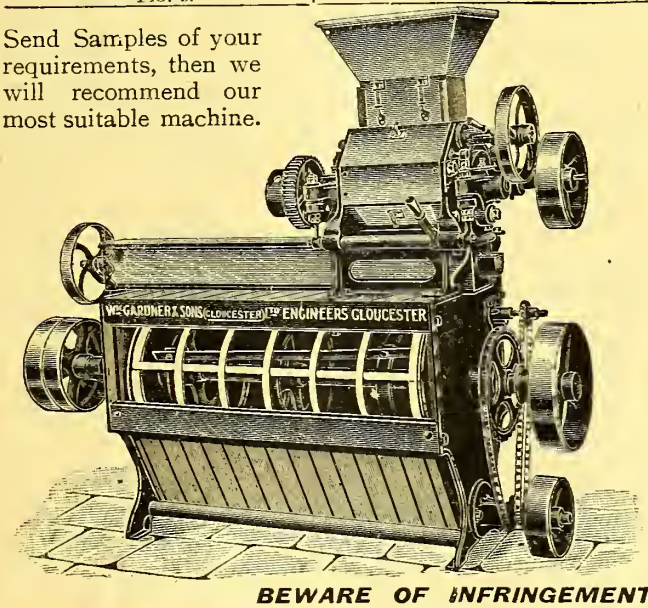


FIG. 12.

Send Samples of your requirements, then we will recommend our most suitable machine.



This is one form of

GARDNER'S PATENT GRINDING AND DRESSING MACHINE.

For Sugars, Invalids' and Infants' Foods, Paint Colours, Crystals, Drugs, &c.

We make these Mills for Sugar, capacity from ½ cwt. per hour upwards, and any grade of Icing and Castors can be obtained at one operation.

Also DISINTEGRATORS, IRON OR GRANITE EDGE RUNNERS, MILLSTONES AND MILLS, DRUM SIEVES, SPICE STAMPERS, DECORTICATORS, IRON & COPPER STEAM BOILING PANS, and other machinery.

DRYING MACHINES for Chemicals and materials for High Explosives.

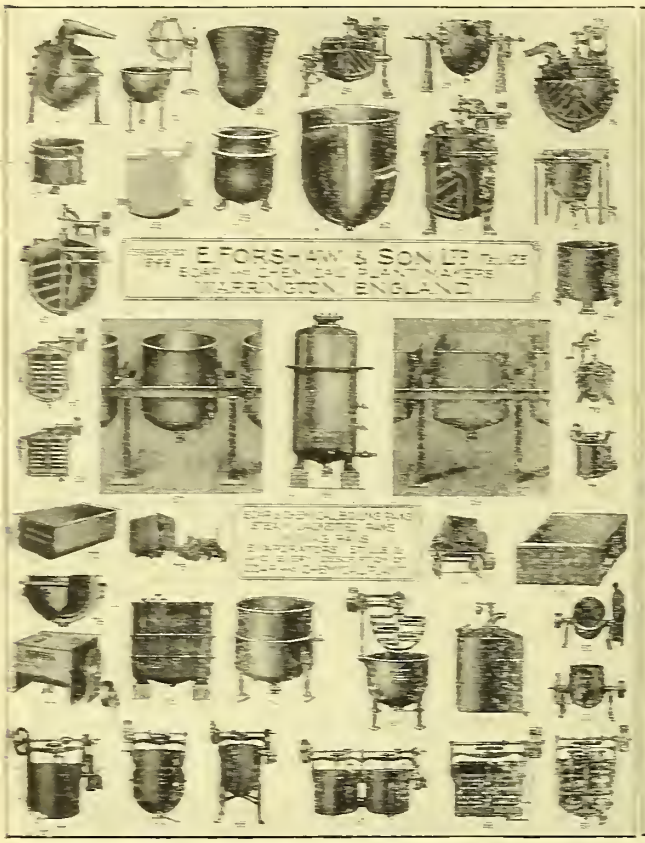
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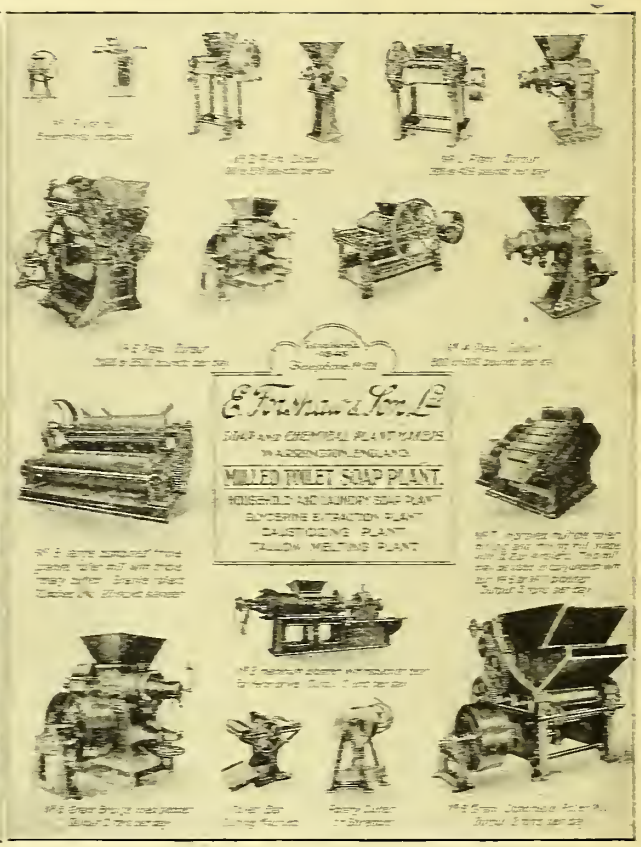
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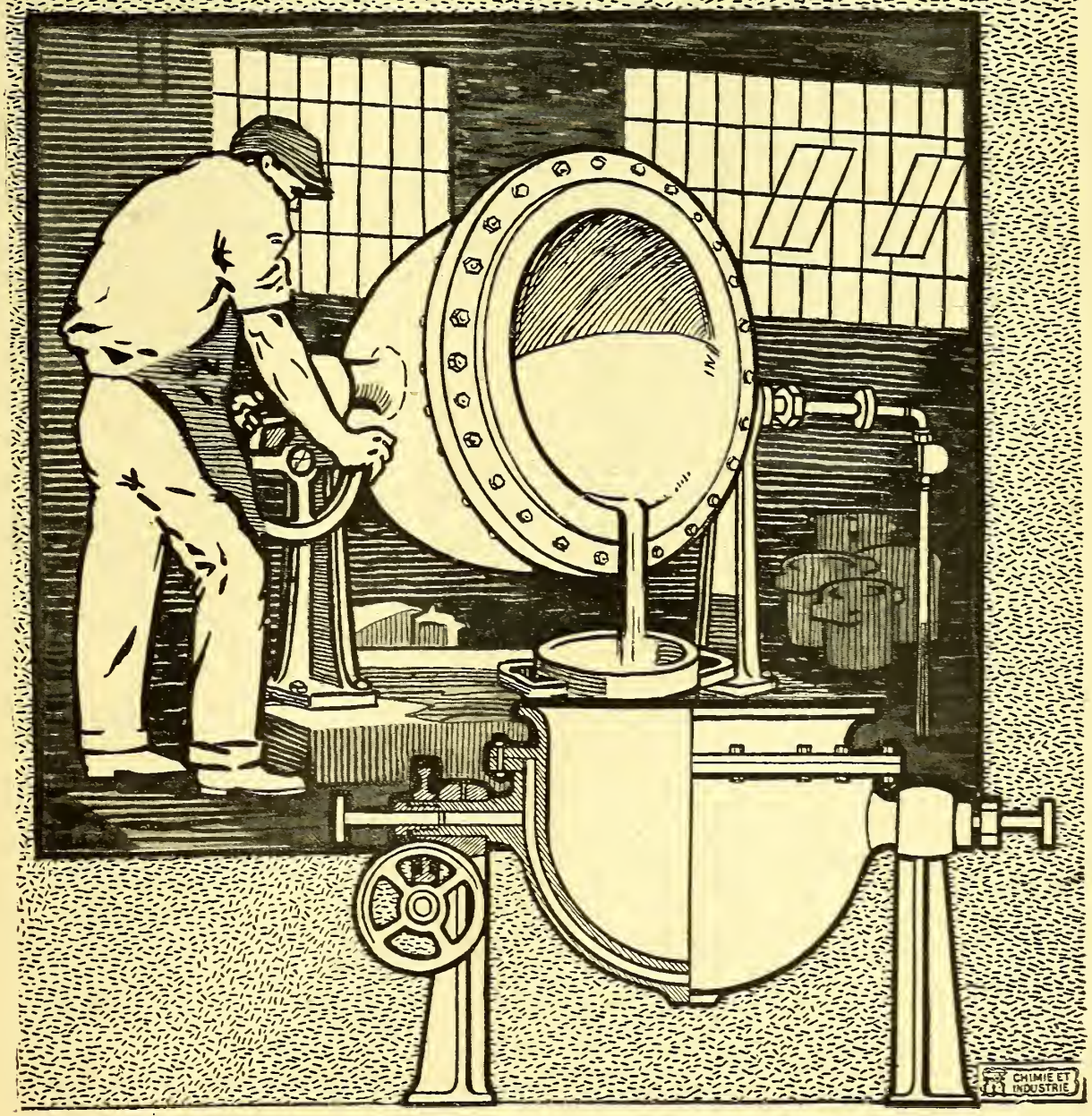
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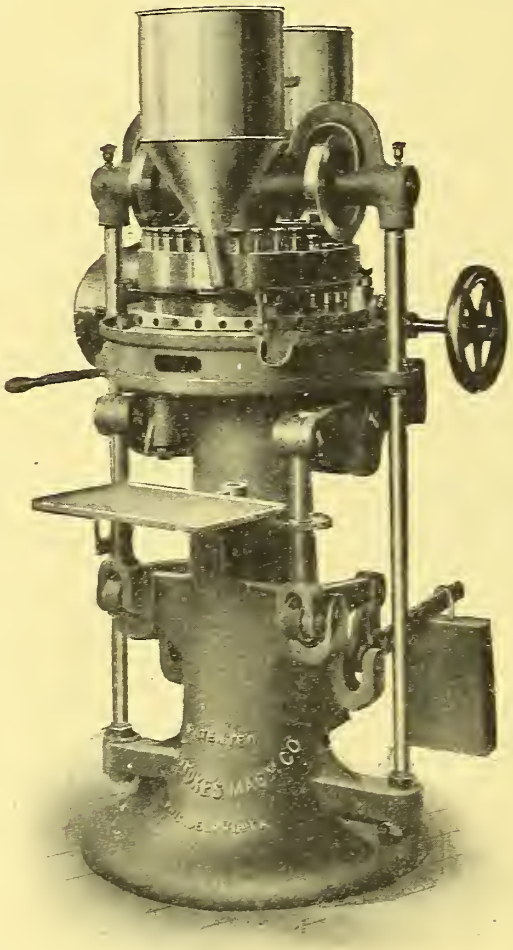
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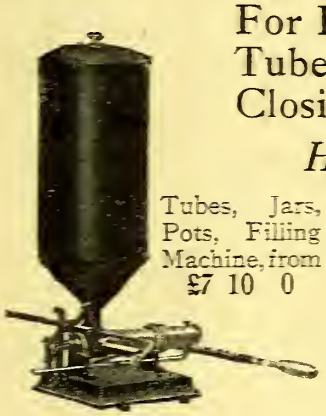
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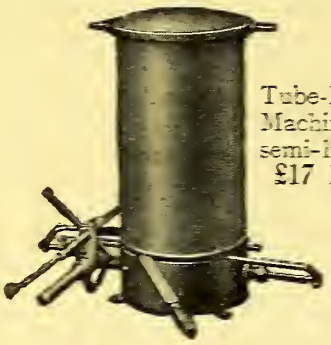
"Centrac" Machines

For Filling Bottles, Collapsible Tubes, Pots, Jars, etc., and for Closing Collapsible Tubes.

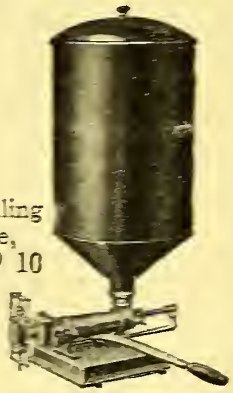
Hand or Power Driven.



Tubes, Jars, Pots, Filling Machine, from £7 10 0



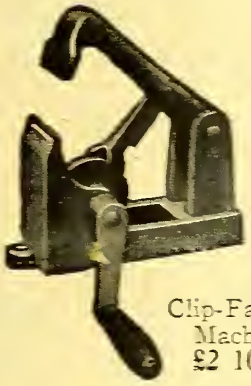
Tube-Filling Machine for semi-liquids, £17 10 0



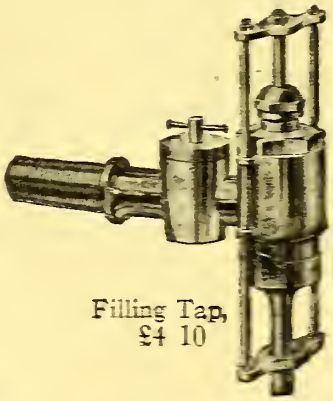
Bottle-Filling Machine, from £9 10

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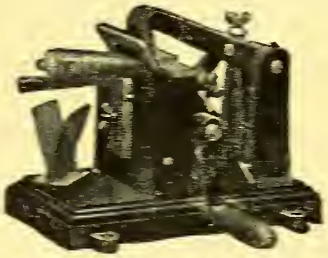
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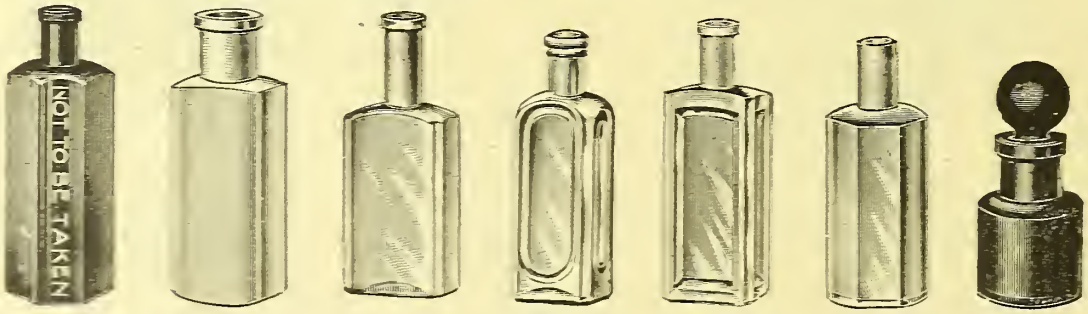
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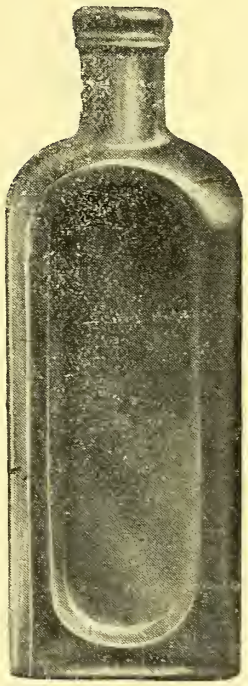
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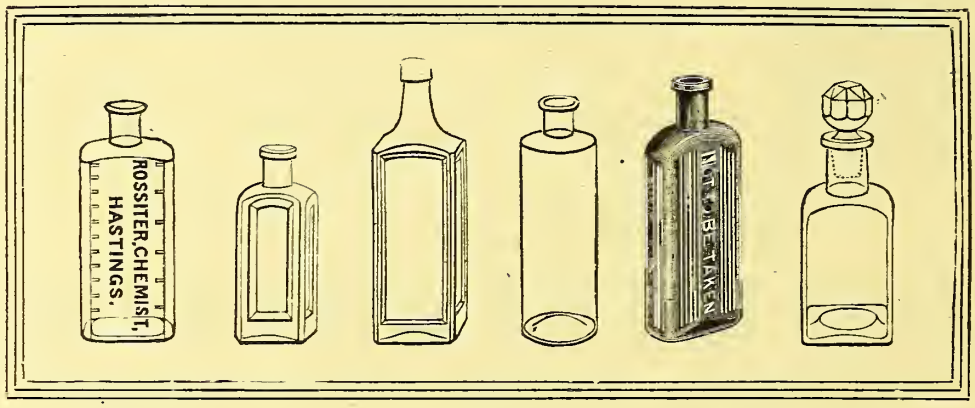
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We also import from our Works in Belgium and France all kinds suitable for Chemists, Perfumers and Kindred Trades. We are in a position to give prompt deliveries of reasonable quantities in a reasonable time.

PRICES ON APPLICATION

We hold stocks of

MEDICAL FLATS, PERFECT FLATS, PANELS, TOBINS, LUBINS, LIMES, KALIS, BRILLS, BAY-RUM PANELS, SCREW POMADES, SALINES, TABLETS, POISONS, AMBER LYSOLS, CORN SOLVENTS, etc. etc.

Special shapes made to order.

A. Ruch & Co., Ld.
(Geo. G. Forsyth)

Established 1880

28, Martin Lane, Cannon St., London, E.C.4.

Warehouses: Coxson Place, Tower Bge Rd., S.E.1.

SHOP ROUNDS
RECESS LABELLED



ROUNDS, RIBBED POISONS, OILS, SYRUPS, ETHERS and JARS.

BEATSON, CLARK & Co., Ltd.
Medical Glass Manufacturers, ROTHERHAM.

Telephone : No. 88 ROTHERHAM. *Telegrams : "BEATSON ROTHERHAM."*

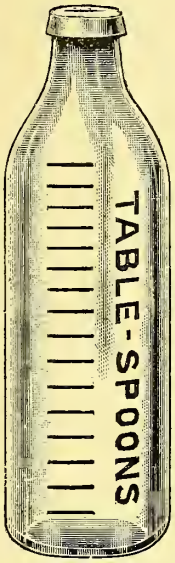
The **W** *Brand of Hand-Moulded*

BOTTLES

AND

MEDICAL GLASSWARE

Free from dangerous "frosted glass."



STERILIZING MILK BOTTLE

Finest Quality Dispensing Bottles, Poisons, Cheltenhams, Chest Squares, Shop Rounds, and Bottles for Proprietary Articles, in various colours. Feeding Bottles and Sterilizing Milk Bottles in Heat-Resistant Glass.



DISPENSING BOTTLE

BOTTLES MADE ALSO ON THE **LATEST TYPES** OF AUTOMATIC MACHINES

Machine-made Dispensing Bottles, Screw-mouth Pomades, Cannons, Screw-mouth Tablet Bottles, Vials, Cheltenhams, Carlsbads, Emulsion Bottles, and Square Sauce Bottles.

SPECIAL MOULDS MADE FOR MACHINE-MADE BOTTLES WHERE LARGE QUANTITIES :: ARE REQUIRED ::

Wholesale only—

WOOD BROS. GLASS CO. LTD.

(Established 1828) **BARNSLEY, ENGLAND.**

E. DUNCAN DORING

Glass Bottles

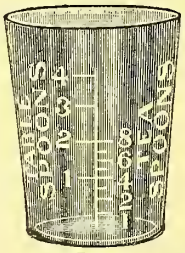
IN STOCK FOR IMMEDIATE DELIVERY

Special Offer of Boat-shaped 2-end Feeders

Let us have your enquiries for
Flats, Panels, Kalis, Vials, etc.

WHOLESALE ONLY.

E. Duncan Doring 7 King St., Cheapside, London, E.C. 2
Telegrams: "Doringlaso, Phone, London." Phone: City 4000.



"Telph" Ideal Medicine Glasses

White Enamel Graduations ← In Cartons of 1 dozen each.

REGISTERED Telph TRADE MARK

Chemist's Own Name → From 3 dozen upwards named.



Best Medicine Glass value in the World.
Supplied with or without Chemist's Name.

No charge for Name plates up to 36 letters.
Indents through Merchant Shippers only.

Quality Tells!

WHOLESALE & EXPORT.

PRICES WITH SAMPLE, POST FREE ON APPLICATION.
Chemists should specify "Telph" when ordering Medicine Tumblers through the Wholesale.
"Telph" quality is not at all expensive. None genuine without Registered Trade Mark Label.

HERBERT'S GLASS WORKS, 76 Orpingley Rd., London, N.7. Est'd. 1910.

C. MELIN & CO.

ESTABLISHED 1865.

7 India Street, Crutched Friars, London, E.C.3

supply GLASS AMPOULES, TUBES, and LAMP BLOWN ARTICLES

OF EVERY DESCRIPTION. PROMPT DELIVERY.

DIRECT FROM THE WORKS :: WHOLESALE & EXPORT.

Reduce Your Bottle Costs



BETTER BOTTLES
mean
BIGGER SALES.

Chemists, Druggists, and the Medical Profession generally need bottles which can be relied upon for accurate capacity and graduations.
U.G.B.M. Bottles are of UNIFORM contents and corkage, ATTRACTIVE in appearance and of DISTINCTIVE design.

The following assortment is now in stock for immediate delivery :—

4-oz. MEDICAL FLATS, Plain and Graduated
6-oz. „ „ „ „ „
8-oz. „ „ „ „ „
12-oz. „ „ „ „ „
1-oz. MEDIUM VIALS.
1-oz. HEAVY CANNONS.
2½-oz. ¾-PANELS.
3-oz. BLAKES.
1¼-oz. BRILLIANTINES (Ring Neck).

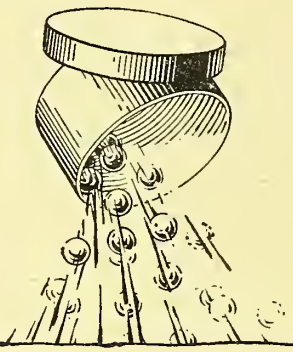
An additional assortment will be available very shortly. If unable to secure supplies from your dealer kindly communicate with the U.G.B.M. Head Offices.

United Glass Bottle Manufacturers,
LIMITED,
40-43 NORFOLK STREET, STRAND, W.C.2.

Telephone : Central 8080 (10 lines).
Tel. Address : "Unglaboman, Estrand, London."

U.G.B BRAND
USE GOOD BOTTLES

ALL OUT OF



A PILL BOX

The - Firm - Of

ROBINSON & SONS LTD,

of CHESTERFIELD



was originated in 1839 when JOHN BRADBURY ROBINSON purchased a small pill-box business previously carried on in one of the small Dales of Derbyshire.

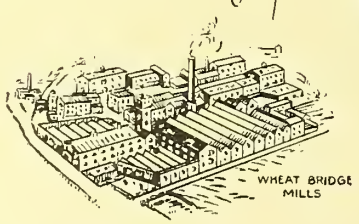
Since then the business has steadily developed until to-day the manufacture of all kinds of small

CARDBOARD BOXES

and other products for which the Firm is famous all over the world, gives employment to over 2,000 workers in three large factories.



HOLME BROOK WORKS

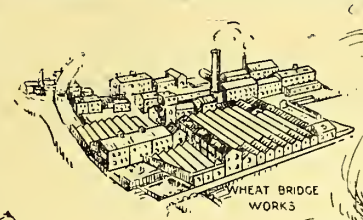


WHEAT BRIDGE MILLS



WALTON WORKS

1921







SMOKE WHICH DOES NOT END IN SMOKE

In 1750, WILLIAM ROBINSON, the great-great-grandfather of the present Directors of Robinson & Sons, Ltd., was a manufacturer of Earthenware and Churchwarden Pipes in Bolsover, a small village in North-East Derbyshire.

The smoke was a nuisance in the eyes of the Lord of the Manor, and (the Rent Restriction Act not having then been thought of) he was summarily ejected, not only from his house, but from his pottery.

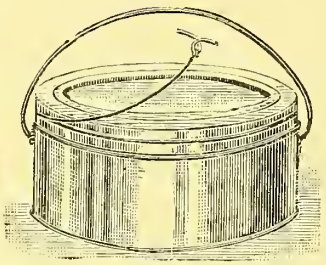
Nothing daunted he moved to Chesterfield and having bought land at Wheatbridge, built himself a house and a new pottery, and prospered greatly.

His son sold the pottery, and his grandson in 1839 turned the house into a Pill Box factory.

From these small beginnings sprang the business which now employs over 2,000 workers in three large factories in Chesterfield, and is known the world over for the excellence of its products.

ROBINSON & SONS, LTD.,
Manufacturers of
ROUND, OVAL, SQUARE & FOLDING
CARDBOARD BOXES.
CHESTERFIELD & LONDON.

1750



Patent Air Tight Slip-lid Tin for Export.

Tight Seaming and Varnish Bottles a Speciality.

THE NORTHERN TIN CANISTER WORKS.

Manufacturers for the Chemical Trade.

Prompt Deliveries Assured.

6 MERSEY STREET, LIVERPOOL.

Telephone: Bank 3433. Telegraphic Address: "Canisters Liverpool."

SELF-FIXING
HERMETIC
WASHABLE
BOTTLE CAPS
ARE
ELEGANT
EFFICIENT
STRONGEST
CHEAPEST
and BEST
IMMEDIATE DELIVERY.
CARRIAGE PAID.
The VISCOSE
Development Co., Ltd.
BROMLEY :: KENT.



WE ARE NOW REMOVED to 395 CITY RD., LONDON, E.C. 1.
(Adjoining "Angel" Tube Station. Phone City 7013.)



We hope this most easily and quickly accessible position will enable us to see personally many of our customers in both London and Country.

Write for NEW POST-WAR LIST

ARCHIBALD J. WRIGHT,
Manufacturing Electricians, LTD.
Specialists in the wholesale supply of Electric Pocket Lamps & Scientific and Mechanical Novelties for Amateurs.
395 CITY ROAD, LONDON, E.C. 1.

BOXES

For the Chemist, Druggist and Sundriesman.

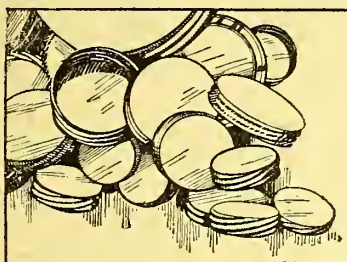
Send your Sizes or Samples, and we will quote you by return. No order too small. No order too large. We *KNOW* your wants and will fit you.

J. DAVIDSON,
98 Shepherdess Walk, City Road, London, N.1.
Telephone North 3747.

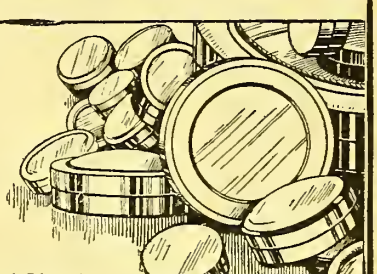
TINS Plain and Decorated, Airtight, Lever & Hinged-Lid Containers, Japanned Medical Cabinets, Toilet Utensils.

G. H. WILLIAMSON & SON'S LTD.
Providence Works, Worcester. Linacre Lane, Bootle.

ALL USERS OF ALUMINIUM CONTAINERS, Etc.
ARE INVITED
TO INSPECT
OUR COLLECTION OF SPECIMENS
SEE UNDER—

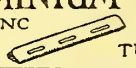


NAPPER & DAVENPORT
7-11 St George's Place BIRMINGHAM
PRODUCERS of BETTER CLASS CONTAINERS
and FITTINGS for MANUFACTURERS of
TOILET and SIMILAR PREPARATIONS



YOUR OWN IDEAS CARRIED INTO PRACTICE

SCREW CAPS & SMALL ROUND BOXES
IN ALUMINIUM & OTHER METALS
NICKELLED ZINC



TUBE CLIPS

BRANDED TO YOUR INSTRUCTIONS

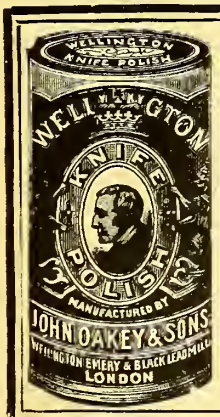
ON VIEW AT
STANDS 93 and 94
THE LONDON FAIR AND MARKET,
ROYAL AGRICULTURAL HALL
JULY 4th to 15th

W. G. MARSHALL,
Chemical and Experimental Glass Blower and Thermometer Maker.



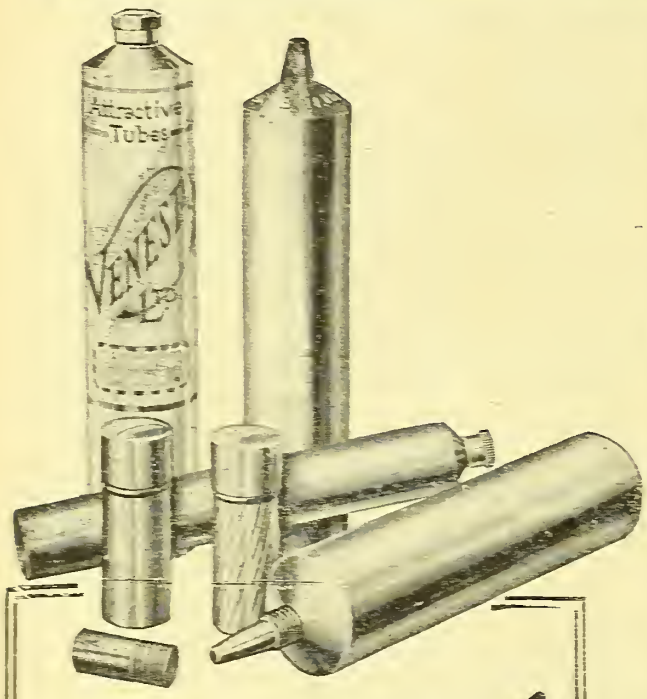
Works: 47 Red Lion Street, LONDON, W.C.1
Telephone No.: Central 6374.
25a Hatton Garden, LONDON, E.C. 1.

TINS
The NORTH LONDON TINWARE Co., Ltd.
Crondall Street, Hoxton, LONDON, N.1
Manufacturers of
TIN BOXES and CANISTERS *FOR INFANTS' FOOD, PETROLEUM JELLY, AND OTHER ARTICLES.*
Round and Square TIN BOTTLES, PLASTER CASES, &c.
Cardboard Boxes and Composite Containers.
Telephone: 2466 Central.



OAKEY'S
"WELLINGTON"
KNIFE
POLISH
The original and only reliable preparation for Cleaning and Polishing Cutlery, &c.
In Canisters, 1d., 2d., 3d., 6d., 1s., 2s. 6d., and 4s. each.

JOHN OAKEY & SONS, LIM.
MANUFACTURERS OF
Emery Cloth, Black Lead
GLASS PAPER, &c.
"WELLINGTON" KNIFE POLISH
The Original Preparation for Cleaning Cutlery. Canisters, 1d., 2d., 3d., 6d., 1s., 2s. 6d., and 4s. each.
SILVERSMITHS' SOAP
For Cleaning & Polishing SILVER, ELECTRO-PLATE, etc. Tablets, 6d.
"WELLINGTON" BLACK LEAD
In Solid Blocks, 1d., 2d., and 4d. each, and 1s. Boxes.
Polishing Paste, Furniture Polish, Plate Powder, Rouge, Urn Powder, Steel Polish, Crocus, Tripoli, Brunswick Black.
Westminster Bridge Road, LONDON, S.E. 1.



Venesta Tubes

When ordering your next supply of tubes remember that Venesta collapsible tubes possess a quality and finish that make them a real selling force.

They are made from Pure Tin, Lead or Lead-coated with Tin and supplied plain or enamelled and printed with designs to suit customers' own requirements.

We also supply Lip-salve Cases, Sprinklers, etc., and shall be pleased to forward illustrated lists, samples and current prices on application to—

G. Dept.

VENESTA LTD.

1 Great Tower Street, London, E.C.3.

Actual Manufacturers of

TINFOIL

Plain, coloured and embossed in any size, gauge or shape.

Immediate Delivery.

GATES' BOTTLE CAPPING SKINS.

The Cheapest and Most Effective Capping ever produced.

Snow-white OPAQUE & Coloured Rolled Skins.

Used by all the Leading Perfumery & Drug Houses.

These Skins are damp and *Ready for Use.*

Absolutely as Opaque as Split Skins and equal in appearance. Also

GOLDBEATERS' SKIN

for Medical Purposes.





Sole Pioneer and only English Manufacturer:

LESLIE GATES,

HAILSHAM, SUSSEX.

Tel. Address: "Gates Hailsham."
Telephone: Hailsham 53 and 3.

WHITE OPAQUE & TRANSPARENT BAUDRUCHE CAPPING SKINS.

Can your Corks stand this?

PUSHED in, twisted, pulled out, rammed in again, forced home against the counter—time after time—without snapping! Can your Corks stand this? If they can't, get into touch with the firm that supplies Corks that *can.*

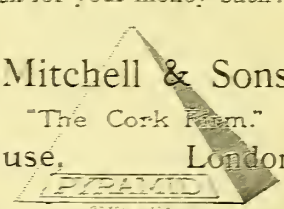
PYRAMID CORKS

Represent the most your money can buy—anywhere. Try them and see. A businesslike offer. If you're not satisfied, ask for your money back!

N. W. Mitchell & Sons, Ltd.

"The Cork Firm."

Limehouse, London, E. 14



Collapsible Tubes



Nothing short of the Best suffices in Betts' Service:

Betts' Quality, Betts' Finish, Betts' Packing or Betts' Prices.

We can prove this to you at any time, in fact, we invite you to ask us to prove it.

Just state your requirements, and we will send full particulars.

BETTS & CO., Limited

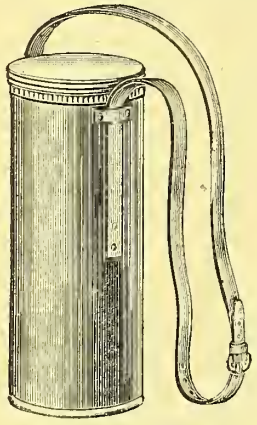
1 Wharf Road, City Road, London, N.1. Estab. 1857.

"THE ELSWAL" REG'D TRADE MARK

A Great Opportunity

of overcoming the temporary slump.

(Prov. Pat. No. 14209/21)



Our Patent **VACUUM FLASK CARRIERS**

which we have just placed on the market, are meeting with a most encouraging demand. All the large London Stores have ordered.

They are of most startling value—the cheapest article of the kind ever produced, yet with the maximum of efficiency.

Neat. Well Made. Splendid Appearance. Popular Prices.

They meet a great demand, and every Firm who stores them will create a ready sale.

ORDER AT ONCE—the Holiday Season is on, and after that the Xmas trade.

TWO SIZES
1 pint 36/- dozen.
1 quart 44/- dozen.

EELES, WALKER & CO., LTD.
The Crescent, Cambridge Street, BIRMINGHAM.
Telegrams: "Elswal Birmingham." Telephone: Central 5324.

GOODS WELL ADVERTISED ARE HALF SOLD.

¶ There are two reasons for the enormous sales of "Fairy Dyes." One is inside the packet—the goodness of the Dyes—their reliability and their low cost. The other is that we spare no effort or expense to advertise them well.

¶ In every leading Ladies' Weekly and Monthly throughout Great Britain clever "copy" and striking illustrations are convincing the public of the superiority and economy of using "Fairy Dyes" and no others for every home need.

Fairy Dyes

¶ Do you want to increase your sales, your repeat orders, your turnover, with a dye that is easy to sell because it is so simple and so easy to use? There is a choice of twenty-two shades suitable for cottons, woollens, linens or silk, and already "Fairy Dyes" are recognised to be most reliable and economical.

¶ Send us your order now. It is too late when you learn that your competitor has been doing great business with "Fairy Dyes," for the demand for "Fairies" is already very great and growing, and the man who has them in stock is the man who scores. The selling price is 2d. per packet and the public want them from *you*.

FAIRY DYES, LTD.
Regd. Office: 20 RENFREW STREET, GLASGOW.
Telegrams: "Fairyland Glasgow." *Phone:* 1902 Douglas.
LONDON DEPOT: 292 Upper Street, ISLINGTON, N.1

The Blessings of the Coal Stoppage

THE CLEANSING SUN-BATH.

HEALTH-GIVING RAYS.

London streets are being cleansed these days in a new way. The absence of smoke has given them a sun-bath of a kind which may react favourably on the public health. It is well known that bleaching operations [illegible] in the confined [illegible] in the treatment of certain diseases. At the present moment London and other great cities are approaching a condition of smokelessness which is allowing the chemical rays of light to pass almost as freely as they pass in the country. People, as was pointed out yesterday, are becoming sunburnt in city streets. More important still, city streets are being cleansed by antiseptic light. It is an interesting fact, and one which gives rise to many speculations.

The Medical Correspondent of the "Times," May 18, 1921.

IT needed a coal stoppage to show many of us the advantages which we should gain if no crude smoke-producing coal were burned in our homes and factories.
This ideal is attainable *without a strike* by the use of gas and gas coke in place of raw coal.

The British Commercial Gas Association
30 Grosvenor Gardens, London, S.W.1

5.C.14

Fancy Boxes
and
Containers for Perfumery
and
Toilet Articles.



A FULL display of these Boxes, specially designed for the Perfumery Trade, will be exhibited on our Stand, (Bay No. 282A, Gallery), at the London Fair and Market, Agricultural Hall, London, N., between July 4th and 16th inclusive.

YOU are cordially invited to visit us, and tickets of admission will be sent gratis on receipt of your trade card. It is an opportunity that should not be missed.

Illustrated lists will be posted on request.

Manufacturers:
The British Novelty Works,
Elephant and Castle,
London, S.E. 1.

Cellophane
What Is It?

CELLOPHANE

is a transparent film of pure Cellulose, **absolutely** air, grease, and odour proof, **unaffected** by cold, heat or moisture, and **sterilisable.**

An **ideal wrapping** for Drugs, Tablets, Bath Crystals, Perfumery, Provisions, Sweets, Surgical Dressings, Articles of Toilet, &c. &c.

Will keep your Goods, Boxes, Bottles, and delicate Labels **clean** on the Counter and in Shop Windows, allowing the Articles to be seen **by transparency.** Can be had colourless, coloured and embossed.

Also in the shape of **Labels** for Bottles, and **Discs** for Creams, Ointments, Boot Polish, &c.

Cello-Dressings—The best substitutes for Gutta Percha and Oiled Silk. Ask for explanatory circular.

Prices, Samples and Particulars from

The CELLOPHANE COMPANY
(LECLERCQ & CHARERAT),
Bolton House, Cullum Street, LONDON, E.C. 3.

"Corruganza" SEAMLESS OINTMENT BOXES

Have replaced the old "Willow" boxes—Greaseproof—the bottoms cannot fall out.

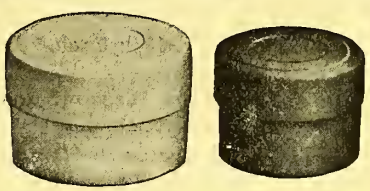
GERMAN "WILLOW" BOXES are again being offered at lower prices, but these boxes will not hold Powders, nor, in warm weather, Ointments.

THEY ARE DEAR AT ANY PRICE.



Stick to the ONE-PIECE principle

"Corruganza" SEAMLESS PILL BOXES.



THE phenomenal success of the "Corruganza" Seamless Ointment Boxes has induced us to offer a series of Pill Boxes made on the same **One-Piece** principle. Stocked in usual sizes.

They cost a little more than the Ring and Disc style, but THEY HOLD THE GOODS, and do not fall to pieces in handling or in the pocket.

Wholesale or Export only from

HUGH STEVENSON & SONS,
LIMITED,
Summerstown Works, London, S.W. 17
And at Manchester, Birmingham, Leith, Perth & Glasgow.

Kindly mention this Journal when replying to the advertisement.

DEAD RATS ARE GOOD RATS **RATOX** RAT POISON

INVINCIBLE RAT POISON

Not a single Rat escapes it if properly used.

In 1/-, 2/- and 5/- Tins.

Shipping Terms: 33⅓% Discount and 2½% for prompt settlement.
Orders of £5 net value delivered f.o.b. CASES FREE.

KUR-MANGE

THE CERTAIN REMEDY
FOR
PARASITIC MANGE

Non-Poisonous. **Non-Irritant.**

Destroys Lice and other Insect Parasites on Dogs, Horses, Mules and other animals.

In PACKETS at **21/-** per Doz.
In 7-lb. TINS at **21/-** Each.

Shipping Terms: 33⅓% Discount and 2½% for prompt settlement.
Orders of £5 net value delivered f.o.b. CASES FREE.

McDOUGALL'S DISINFECTANTS

HIGHEST QUALITY
GUARANTEED CO-EFFICIENT
LOWEST PRICES

For special quotations apply to—
McDougall Bros., Ltd.
66-68 Port Street
MANCHESTER.

FOUND DEAD!

17 rats killed in a week with a 1/- packet of DUNCKLEY'S RAT-KILL

A CHEMIST writes:—"Please repeat my order for RAT-KILL. I have several customers who say that your RAT-KILL is the best killer they have ever used. One customer states that a 1/- packet killed 17 rats in a week."

DUNCKLEY'S RAT-KILL
(Requires no Signature)
Destroys RATS, MICE, and all VERMIN. Dries them up and leaves NO SMELL.

DUNCKLEY'S RAT-KILL has been analysed by His Majesty's Ministry of Agriculture and Fisheries (Rat Dept.), and has received the Distinction of being placed upon their Register as an **Effective Poison for the Destruction of Rats, Mice and all Vermin.**

6d. size **3/6** per doz.; 1/- size **6/6** per doz.; 2/6 size **15/-** per doz.; £1 orders, 5%; £2, 7½%; £5, 10% discount. Carriage paid. Cash with order, direct from the makers, or through your usual wholesale house.

DUNCKLEY'S RAT-KILL NEVER FAILS

DUNCKLEY & CO., Manufacturing Chemists,
Lansdowne Rd., London, E.8.
ESTABLISHED 1886.

HARVEY'S

Watts' Embrocation, or Curb Bottle.
Aconite Powders.
Worm & Condition Powders.
Watts' Red Lotion.
Hair-Restoring Ointment.
Edos, or Tasteless Purging Powder.

HARVEY'S
Great Remedies for the Horse
Protected Prices. (P.A.T.A.)

HARVEY'S

Koppos Powder.
Parasiticide.
Thrush Specific.
Hoof Ointment.
Hair Restorer (Human.)

Of all the leading Druggists' Sundries Houses.
HARVEY & COMPANY, Ltd., Dublin.

A LINE TO PUSH



The Rat Exterminator that is Reducing the £75,000,000 Rat Tax.

Mr. A. MOORE, of the *Vermin Repression Society*, speaking in London, "emphasized the necessity of concerted action for the destruction of Rats, and estimated the cost of keeping our Rats to be £75,000,000 per year. He declared there were at least 50,000,000 Rats in the Country, and that they were on the increase."

Mr. RUTLAND, Wortham, writes, June 3rd, 1921 :— "This place was over-run with Rats and I purchased a 1/3 Tin of 'Rodine' and used half of it Result : 1st night 61 Rats; 2nd and 3rd nights 39—100 Rats in all found dead and dying. No smell or unpleasantness."

Mr. R. L. FLEMING, Chemist, Hebburn Quay, writes :— "Many thanks for Revised Price List for your 'Rodine' Rat Poison, and I note with pleasure the liberal discounts allowed, making it a line to push."

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Virus for Rats and Mice,	single tube, 2/-	... 15/- per doz.
	3 tubes, 5/-	
Virus for Mice only -	single tube, 1/6	... 9/- „ „
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Date-expired tubes returned to us postage paid will be exchanged free of charge.

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Quart Bottles	6/- each	4/6 each
Pint „	4/6 „	3/9 „

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	Retail	Monthly a/c	Cash with order
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1 „ „	... 18/-	13/6	12/-
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For destroying Blackbeetles, Cockroaches, Crickets, &c.

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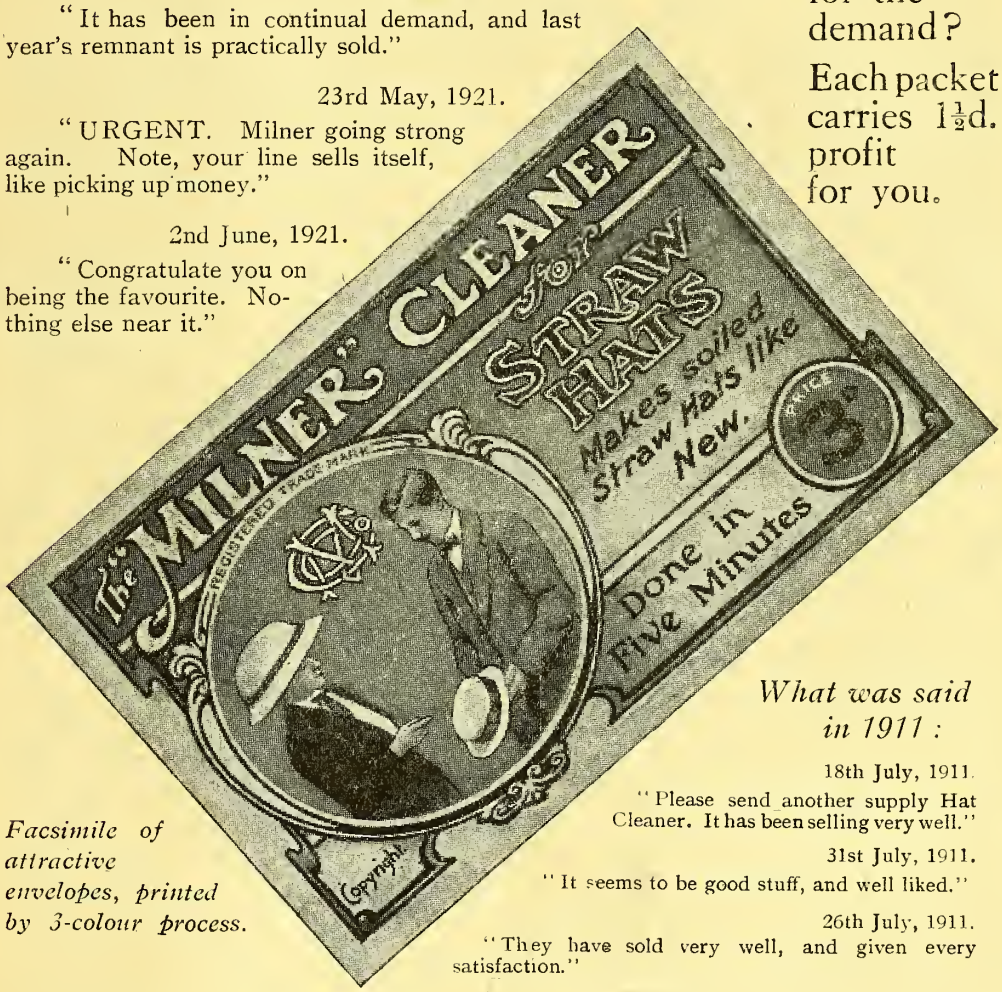
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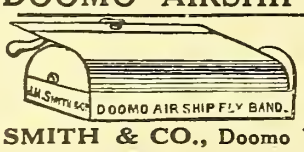
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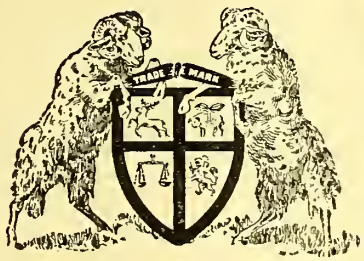
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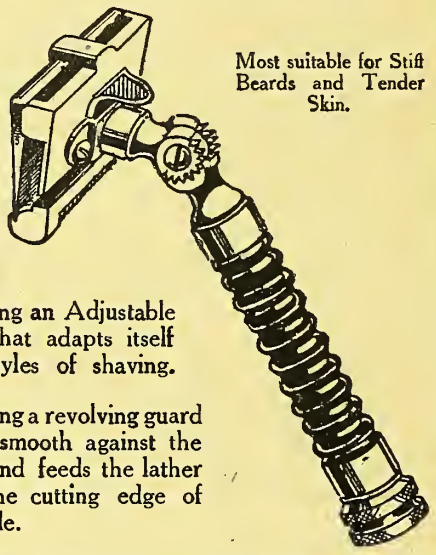
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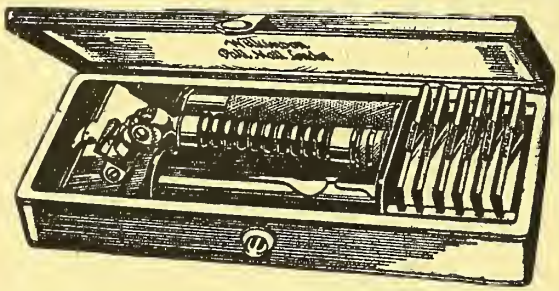
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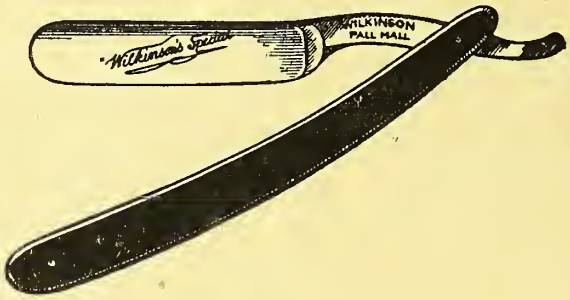
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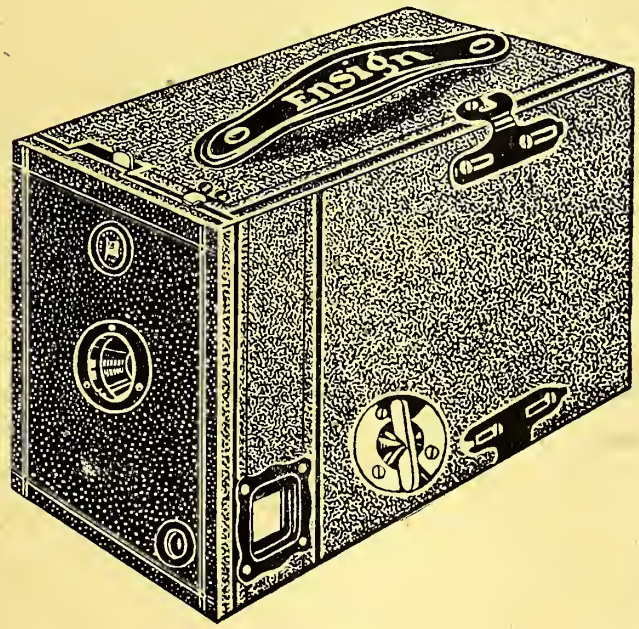
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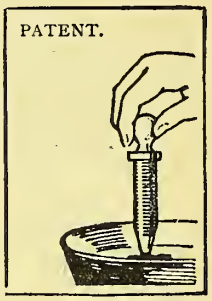
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Dear Mr. Cook, Co. Mayo, May 1921.
The cases arrived safely. I am more than pleased with them; they fitted beautifully and do you a lot of credit.
Yours faithfully, D. S.

Sussex, 16/5/21.
The Silent Salesman arrived safely and I am delighted with it. Please put the other in hand at once as quoted.
Yours faithfully, G. A.

GEORGE COOK, The CHEMISTS' Working Shopfitter.

29 Macclesfield Street, City Road, LONDON, E.C.1.

GLASS BOTTLES

A LARGE number of my friends in the Drug Trade already know that I have made the supply of every description of bottle used in the Drug and Allied Trades a Speciality for a period of 20 years, and I can confidently say that no other House can offer better facilities as regards either quality, price or delivery.

If it should happen that I am not already doing business with your good selves, your enquiries will receive prompt and personal attention.

TOM LAYCOCK & Co.

(TOM LAYCOCK, PROPRIETOR)
ISLES WORKS, HOLBECK LANE
LEEDS

I. ISAACS & CO.'S

WELL-KNOWN
DISPENSING BOTTLES

4-oz., 6-oz., 8-oz., and 12-oz.
WHITE FLINT* or *MEDICAL TINTED
at Lowest Possible Prices.
Also VIALS, BLUE POISONS, etc.
Particulars on application to Head Office:
The NORTH LONDON GLASS BOTTLE WKS,
106 Midland Road, LONDON, N.W. 1.
ESTABLISHED 100 YEARS.

G. B. KENT & SONS, LTD.

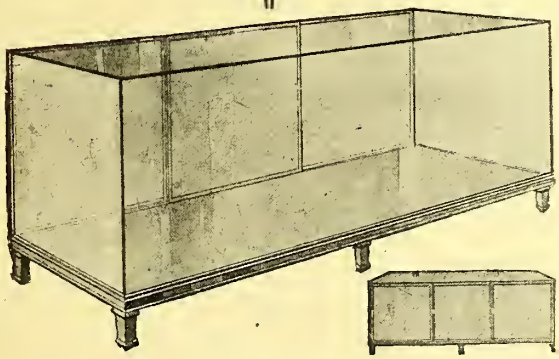
Are known the World over as the Largest Manufacturers of

BEST BRITISH BRUSHES

Please write for full Particulars to—
75 Farringdon Road, E.C. 1.



Interior designed and erected by us for Messrs. Butlers, of Leicester.



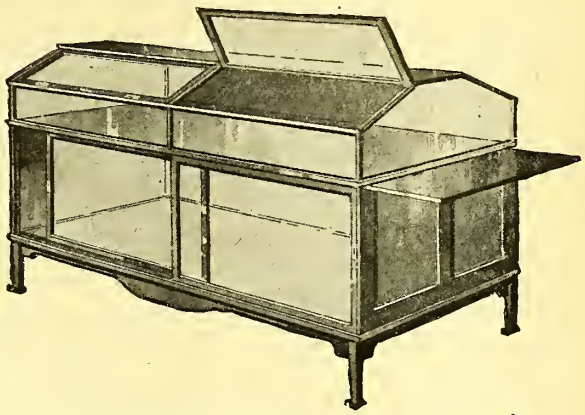
Standard Unit Counter, size 8 ft. by 3 ft. high by 2 ft. wide. Plate glass front, top and ends, sliding mirror doors at back. Supplied in any hard wood, especially attractive when framed up in bronze metal.

YOUR BEST INVESTMENT

IS

PERPETUAL ADVERTISEMENT.

ADVERTISE YOURSELF AND YOUR GOODS BY INSTALLING MODERN EQUIPMENT. ILLUSTRATED IS TYPICAL OF OUR DISTINCTIVE WORK.



Display Case of plate glass and panelled ends. Plate glass division, open doors at top, sliding doors at bottom. Made in mahogany or any other hard wood.

We cannot sell your goods, but we can help you to so display them that they make an irresistible appeal to your customer.

We are actual designers and manufacturers of Shop Fronts and Interior Fitments to suit the time, place and nature of the goods you wish to display.

OUR EXPERTS ARE AT YOUR SERVICE.

PARNALL & SONS LTD

SHOPFITTING SPECIALISTS

27, SUMMER ROW, BIRMINGHAM. WORKS: BRISTOL.

K K

An Invitation to First-class Appearance

CHEMISTS

of to-day have undoubtedly to specialize in appearance and attractiveness. . . . .

To attract their customers they must of necessity have an inducement to that end.

The general display should therefore be such as will guarantee the attention that will certainly be paid if proper methods are adopted. . . . . .

THE ONE ESSENTIAL in placing your products before the public is

PRINTING

SEND US YOUR NEXT ORDER OR ENQUIRY

We are specialists in the production of all the Printing requirements of the Chemist.

Full set of Samples to Colonies 10/6, which we credit on order of £10 and upwards.

OUR LABELS CARTONS CIRCULARS

will compel attention with beneficial results

Thomas Waide & Sons LTD.

Chemists' Printers,

Leeds.

IT STANDS TO REASON THAT, ACTING FOR PRACTICALLY ALL THE WHOLESALE TRADE,

THE ASSOCIATION OF
MANUFACTURING CHEMISTS, LIMITED

(For the Protection of the Drug, Chemical, Photographic & Allied Trades).

Holds the unrivalled position of being able to render the finest possible service in relation to

The Collection of Accounts, Status Enquiries, Investigations, Valuations, Purchase and Sale of Businesses.

(FACTS THAT MATTER.)

It has Agents in every town in the United Kingdom—It owns the most Up-to-Date Records—And its Directors are connected with the Leading Manufacturing Chemists.

A VERY LARGE FIRM WRITES: "We strongly advise every business firm placing their accounts in your hands for collection. THE RESULT will ASTONISH them."

WRITE TO-DAY FOR PROSPECTUS, and by joining, you will make your BAD DEBT LEDGER a relic of the past.

Chemists' Business Transfer Agency, Auction and Valuation Department.

VENDORS. Chemists desiring to dispose of their businesses, Wholesale or Retail, are invited to place them in our hands. We possess an unique register of bona-fide purchasers.

PURCHASERS. Intending purchasers will do well to consult us, as we have an unrivalled experience in the sale, transfer and valuation of all classes of business, and give expert advice free of charge.

STOCKTAKING. We make a special feature of this very important work, and having a large and qualified staff to assist us, we can carry on the same expeditiously and without interruption to business. Moderate and inclusive fees.

THE ASSOCIATION OF
MANUFACTURING CHEMISTS, Limited.

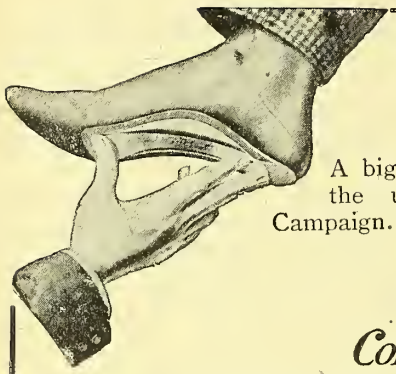
PRINCIPAL - PARKIN S. BOOTH,

ACCOUNTANT AND VALUER.

(The Trade Protection's "Live Wire," as the "C. & D." describes him.)

HEAD OFFICES:
31 KIMBERLEY HOUSE,
HOLBORN VIA., LONDON, E.C. 1.
Telephone No. City 6942 & 3 (2 lines). Telegraphic Address: "Asmanist, Cent, London."

LIVERPOOL BRANCH:
35, 36, 37 EXCHANGE CHAMBERS,
BIXTETH STREET, LIVERPOOL.
Telephone: Central 8365 (4 lines) Telegrams: "Quorum Liverpool."

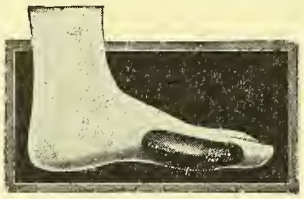


SCHOLL Advertising Stimulates Demand

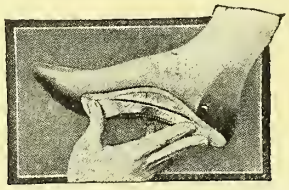
A big opportunity to increase business and profits is afforded to the up-to-date Chemist by our National Summer Advertising Campaign. The ever-increasing demand for

Dr Scholl's
Corrective Foot Appliances

testifies to their value as aids to foot comfort and correction, and to the public interest taken in our advertising.
Feature SCHOLL goods strongly in your window and link up with our publicity.



Dr. Scholl's Bunion Reducer relieves and reduces bunions and enlarged joints. Eliminates shoe pressure. Worn in conjunction with Dr. Scholl's Toe Flex. Three sizes.
Retail price, **2/6** *each.*



Dr. Scholl's Foot-Eazer eases tired, aching feet. Corrects flat or weak foot, etc. Comfortable to wear in ordinary size shoes.
Retail, **10/6** *per pair.*



Dr. Scholl's Toe Flex corrects bunions and restores the normal position of the joint by straightening the crooked toe. Three sizes.
Retail price, **2/-** *each.*

Booklet, "Scientific Correction of Foot Ailments," sent free on request.

The SCHOLL MFG. CO., Ltd., 1-4 Giltspur Street, E.C. 1

P.A.T.A. NOTICE.

18 Tavistock Square, W.C. 1.

June 24, 1921.

The following revised prices are now in force :

Advertised Price.			Minimum Retail Price.	Minimum Wholesale Price.
	Torch Brand Products:			
1/3	Glycerin of Thymol Compd. ...	3½-oz.	1/3	Doz. net. 8/6
2/-	,, ,, ,,	8-oz.	2/-	13/-
	Parke, Davis & Co.'s Preps. :			
1/3	Germicidal Soap, 2% ...		1/3	10/2
			List Price, 13/6	

MANUFACTURERS of TOILET and PERFUMERY articles of a Proprietary character, sold largely in the Drug Trade, are cordially invited to place these preparations on the Protected List.

All enquiries on the subject to the Secretary will be promptly attended to.

PARKES'

HOUSEHOLD AMMONIA

in 10-oz., 20-oz. and 26-oz. poison bottles

FULL STRENGTH.
BEST VALUE.
ATTRACTIVE PACKAGES.

PARKES'

STRAW HAT DYE

in all fashionable shades.

DULL AND GLOSSY.

9d. size . . **6/-** per dozen.

Send for Price List of many articles of interest to Chemists.

JOHN PARKES & CO.

PRIORY WORKS, WARWICK.

IMPORTANT NOTICE.

ZENOBIA, Ltd.

Manufacturing Perfumers and Toilet Soap Makers, etc.

LOUGHBOROUGH.

We are given to understand that rumour is current in Trade circles that Zenobia Limited has been sold to, or amalgamated with, another Firm. We beg to state that this rumour is untrue, and that no alteration has taken place, or is anticipated, in the constitution of this firm which remains as it has been for the past eleven years a Private Company, and that the Governing Director is interested in no other similar Manufacturing Firm.

For ZENOBIA LTD.,
W. F. CHARLES, *Governing Director.*

REGISTERED TRADE MARK **"INGOT"** REGISTERED TRADE MARK

Surgical Dressings, Infant & Invalid Requisites, Chemists' Sundries, Toilet & Fancy Goods.

Are packed and particularly adapted for your requirements. Every inquiry needs a special study—you obtain this from

FORD, COOK & CO., Ltd., 6 Well Street, London, E.C. 1.

Telegrams: "Drofcolym, Cent, London." Telephone: City 6343. Code: ABC, 5 h Edition.

We are at your service and request the opportunity of quoting for your wishes.

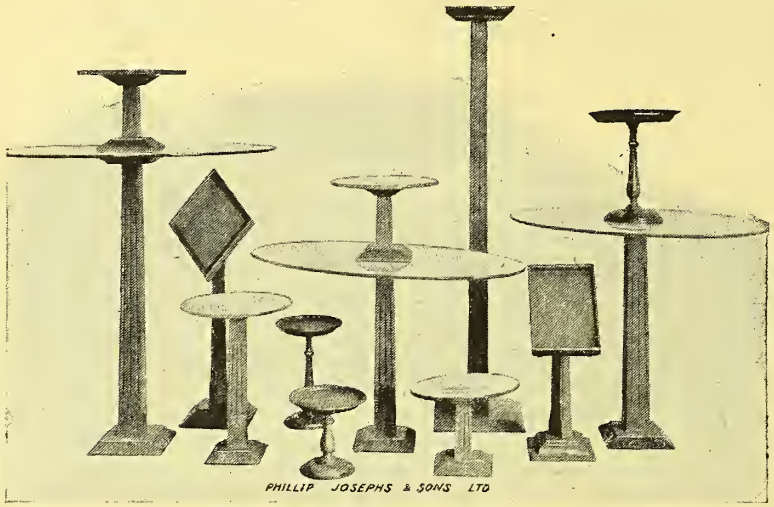


We Specialise in Seals, Labels and Showcards for the Chemist and Perfumery Trades.

WALSALL LITHOGRAPHIC CO., Vicarage Place & Mountrath St., WALSALL

"SURE-SALE" SHOWSTANDS

ARE CERTAIN MONEY MAKERS



OAK DISPLAY STANDS

Polished edge glass shelves. All woodwork polished.

Prices and full particulars on a plication

We have a full range of these Stands and shall welcome your inspection.

PHILIP JOSEPHS & SONS, Ltd.,
Pharmaceutical Shopfitters,
93 Old St., LONDON, E.C. 1.
ESTAB. 182-.

Tel. Add.: "Josiphiah London."
Tel. No.: Clerkenwell 2191.

Telephones: London Wall 4391, & Bank 275. Cable Address: "TAARINCO LONDON."

THE EASTERN AND RUSSIAN TRADING CO., LTD.,

8 Drapers Gardens, Throgmorton Avenue, London, E.C. 2.

SANTONINE

WORMSEED (Semen Cinæ) LYCOPODIUM CANTHARIDES

And other Russian Crude Drugs (barks, gums, leaves, oils, roots and seeds).

AGENCIES THROUGHOUT THE WORLD. STOCKS IN LONDON.

Energen

When the DOCTOR forbids his patient to eat ordinary bread, and recommends **ENERGEN GLUTEN BREAD** in the diet. **CAN YOU SUPPLY** when asked? **ENERGEN GLUTEN BREAD** is recommended by the Medical profession in the treatment of DIABETES, INDIGESTION, OBESITY, GOUT, etc.

Light, crisp, delicious rolls.
Packed specially for Chemist's trade.
INQUIRIES INVITED.

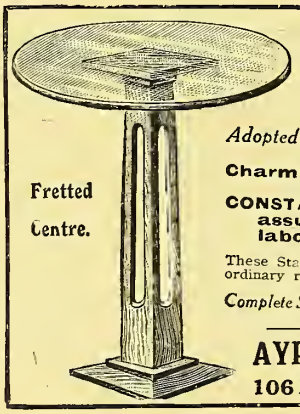


The only Gluten Bread that fulfils the doctor's requirements.

The most palatable and nutritious Gluten Bread on the market. Keeps perfectly.

Chemists who can supply ENERGEN BREAD obtain a GOOD PROFIT.

THERAPEUTIC FOODS CO.
19c Roundwood Road, Willesden, N.W. 10



OAK PEDESTALS
AND
Plate Glass Shelves

Adopted by Leading Window Dressers

Charming and Artistic Effects

CONSTANT CHANGE OF SHOW assured. Window-dressing labour more than halved.

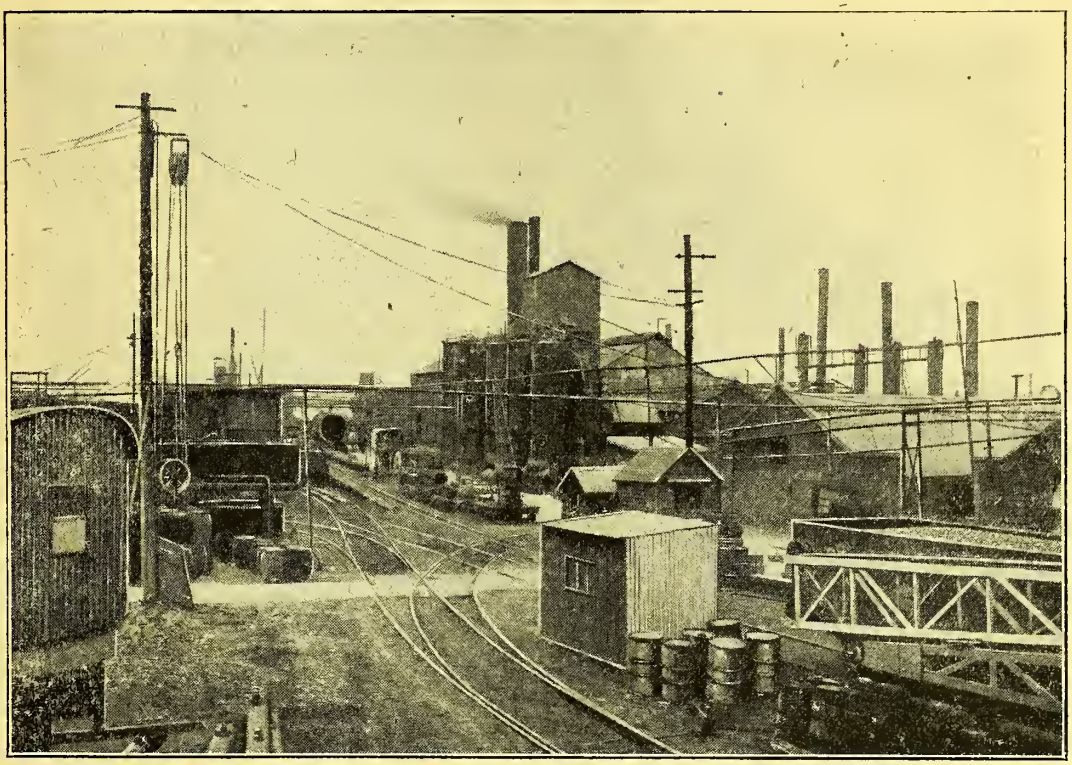
These Stands can be used in conjunction with ordinary rows of Window Shelves if desired.

Complete Sets 27/6, 50/-, 81/6, 96/6 & 97/6

AYRTON-GRAHAM, Ltd.
106 Duke St., LIVERPOOL.

'Ialine' Disinfectants

BURT, BOULTON & HAYWOOD, LTD.



Also
FLUIDS
containing
10 — 80%
Tar Acids.
High Co-efficient
FLUIDS
up to 1⁹—20
Rideal-Walker
Method.
LYSOL
SHEEP DIP
Approved by the Board of Agriculture for Sheep Scab.

COAL TAR AND AMMONIA PRODUCTS

Benzols, Toluol, Solvent Naphthas, Carbolic and Cresylic Acids, Creosote and Fuel Oils, Pitch, etc. etc. Timber for Dock and Harbour Work. Deals, Battens, Boards, Floorings, etc. Railway Sleepers and Crossing Timbers, Telegraph Poles, etc. etc. Saw Millers and Timber Preservers.

BURT, BOULTON & HAYWOOD,
LIMITED,
Salisbury House, London Wall, E.C. 2.

Telegrams: "Burboul, Ave, London."
Cables: "Burboul London." Codes: A B C (5th Edit.); Lieber's; Western Union; Bentley's.

CARBOLIC POWDERS
CREOSOTE POWDERS
CO-EFFICIENT POWDERS
PINE OIL POWDERS
PINE OIL FLUIDS
PINE OIL BLOCKS
NAPHTHALENE BALLS
„ CANDLES
„ TABLETS
„ FLAKE
„ BLOCKS
„ POWDER
LIQUID SANITARY SOAP
WOOD PRESERVATIVE
ETC. ETC.

K K

When you Sell—

Your OWN Infants' Food

you are creating the most valuable Asset a Chemist's business can have.

You work for YOURSELF—

when you recommend a Food which is your own proprietary. You get all the repeats. There is no question of sharing the business with a competitor down the road or the grocer round the corner.

You Eliminate Competition—

The Food can be obtained from you only, and you have a regular customer for several years. Even if the customer moves into another town or district you will be required to send a regular supply.

You Cannot be Undersold—

You fix your own price, and no customer can say that the Food can be bought cheaper elsewhere.

The Business Grows like a Snowball—

"Baby" is a perennial topic with most mothers—some talk nothing else. The sale of a good Food grows rapidly through recommendation, and being your own proprietary, you get all the repeats.

You Sell MORE than the Food—

The Chemist who supplies the Baby's Food gets the business for the whole household in the goods he sells.

The MALTED FOOD we manufacture is the
BEST ON THE MARKET.
and is the result of 40 years' experience.

GEORGE KING & COMPANY,
ALBION FOOD MILLS,
1 & 2 SYCAMORE STREET, LONDON, E.C.1.

See opposite page for illustration of free sample Infant's Food.

K K

YOUR OWN PROPRIETARY LINE!
READY TO SELL!!



THIS attractive two-colour label, with own name imprinted and showcards to match, is reserved to one Chemist only in each locality.
The design is also available for Exporters covering territory not already reserved.

We pack in cartons, composite containers and tin canisters (plain or with own labels affixed free), and in BULK for own packing.

QUOTATIONS FOR TINS OR TONS UPON APPLICATION.

GEORGE KING & COMPANY,
ALBION FOOD MILLS
1 and 2 SYCAMORE ST., LONDON, E.C.1.

See opposite page for good reasons why you should sell your OWN Food.

The leading British Manufacturers of
FINE, RARE & REAGENT CHEMICALS
ARE
Hopkin & Williams, Ltd.
Established 1850
16 CROSS STREET, HATTON GARDEN, LONDON, E.C.1.
Telephone - - - - - - - - - 604 HOLBORN.

Special attention devoted to Chemicals for Technical and Photographic Industries.

Laboratories: ILFORD, near LONDON.

A. JOHNSON & CO. (LONDON) LTD.

3 GRACECHURCH ST., LONDON, E.C.3.

Telegrams: "AGENTICUM, LED, LONDON." **Telephone: AVENUE 1098.**

ESSENTIAL OILS.

EUCALYPTUS OILS B.P.
Strengths 70-75%
75-80%
EUCALYPTUS AMYGDALINA
„ CITRIODORA
EUCALYPTOL
SANDALWOOD OIL—AUSTRALIAN

Pharmaceuticals, Photographics, etc.

ACID BENZOIC
„ ACETYL-SALICYLIC
„ DIETHYLBARBITURIC
„ LACTIC
„ PYROGALLIC-RESUBL
„ TANNIC, LIGHT
BROMIDE OF POTASSIUM
„ „ SODA
„ „ AMMON.
ANTIPYRINE
AMIDOPYRINE
AMMON. ICHTHOSULPH.
CALCIUM LACTATE
CREOSOTE PURE
CREOSOTE CARBONATE
HEXAMINE
HYDROQUINONE
METOL
PARALDEHYDE
PHENOLPHTHALEIN
RESORCINE
THEOBROMINE
SULPHUR PRECIP.

BRANCHES: Stockholm, Gothenburg, Malmo, Copenhagen, Paris, New York.

ROSE'S
LIME JUICE

A Highest Grade Speciality.

Minimum Retail Selling Price

2/4

per bottle



A Rapid Seller, showing a Profit of

37% to 40%

Delicious, Wholesome and Refreshing.



The Standard for Purity and Excellence.

A British Product throughout, and superior in every way to Lemon Squashes made from Foreign Materials.

L. ROSE & CO., Ltd., 89 Worship Street, London, E.C.2

And at Dominica, British West Indies.

COMBS.

Great Clearance of Combs—Dressing, Rakes and Tooth, etc., at prices much below actual cost.

MAKE UP AN ASSORTED ORDER FROM THIS LIST, AND SEND THAT ORDER **NOW!**

LADIES' DRESSING COMBS

No.		Size in. in.	Price s. d.	
299	Ivory Grained Celluloid ...	8¼×1⅜ ...	9 0	per doz.
407	Black Celluloid	8½×1⅝ ...	7 6	,,
151	Black ,, ...	7½×1⅝ ...	5 0	,,
863	White ,, ...	7½×1½ ...	6 0	,,
387	White ,, ...	7×1⅜ ...	5 6	,,
605	Black ,, Rakes ...	8¼×1⅜ ...	9 6	,,
577	Black ,, Rakes ...	7¼×1¼ ...	7 6	,,

GENTS' COMBS

No.		Size in. in.	Price s. d.	
565	White Celluloid	6¾×1⅜ ...	5 0	per doz.
w13	White ,, ...	6¾×1¼ ...	5 0	,,
833	White ,, ...	6¾×1 ...	4 6	,,
20	Black ,, ...	6¾×1 ...	4 6	,,
373	Black ,, ...	6¼×1 ...	4 0	,,
20B	Black ,, ...	6¼×⅞ ...	3 0	,,
831	Shell ,, ...	6½×1¼ ...	4 6	,,
960	Black ,, Pocket ...	5×1 ...	2 6	,,

SMALL TOOTH COMBS

No.		Size in. in.	Price s. d.	
951	White Celluloid	3¾×1⅜ ..	4 0	per doz.
B25	Black Galalith	3¼×1⅜ ...	3 6	,,
B25	White ,, ...	3¼×1⅜ ...	3 6	,,
B25	Blonde ,, ...	3¼×1⅜ ...	3 6	,,
B30	White ,, Fine Cut ...	3¼×1⅜ ...	5 0	,,
B30	Blonde ,, ,, ...	3¼×1⅜ ...	5 0	,,
A30	Blonde ,, ,, ...	2¼×1⅜ ...	4 0	,,
C25	White ,, Special ...	3½×1⅜ ...	4 0	,,
505	Black Vulcanite Fine ...	3½×1⅜ ...	5 9	,,
507	Black ,, ,, ...	3¼×1⅜ ...	6 6	,,
509	Black ,, ,, ...	3½×1⅜ ...	7 0	,,
527	Black ,, ,, ...	3¼×1⅜ ...	8 0	,,
510	Black ,, ,, ...	3½×2 ...	7 9	,,
526	Black ,, ,, Stout	3½×1⅜ ...	8 3	,,
513	Black ,, ,, ...	3½×2⅛ ...	10 0	,,
516	Black ,, ,, ...	3¼×2⅛ ...	12 0	,,
519	Black ,, Ex. Stout	3⅝×2⅛ ...	13 0	,,
520	Black ,, ,, ...	3¼×2⅛ ...	13 6	,,

BABY COMBS

No.		Size in. in.	Price s. d.	
42	Blue, Pink and White Carded	4¼×⅝ ...	4 6	per doz.
52	,, ,, with handle	5¼×⅝ ...	6 0	,,

Celluloid Soap Boxes

No.		Doz.
45.	Assorted Colours (full size)	4/6
30.	Imitation Ivory (Grained), with surplus outlet	5/6

LIMITED QUANTITY ONLY.

TERMS.—Net Cash with Order. Carriage paid on all Orders over £1.

All Goods despatched per return.
SATISFACTION ASSURED.

H. WISEMAN

42 Gutter Lane, Cheapside, LONDON, E.C. 2.

All Cheques and Postal Orders to be crossed. Treasury Notes Registered.

A CHALLENGE

by the Manufacturers of THE FAMOUS

AMAMI NAIL STONES

in the Original Aluminium Box.

THE Proprietors of the Famous AMAMI NAIL STONES offer £5 to any charity, and a public apology, if it can be proved that any similarly packed product antedates AMAMI.

AMAMI NAIL STONES, as all AMAMI products, are *absolutely* British made, and our factory in London is open to inspection at all times.

P.A.T.A. 1s.; 6/9 per dozen. All wholesalers.

Samples. Bonus Terms. £100 Window Dressing Competition.



Please write to

PRICHARD & CONSTANCE

(Wholesale), Ltd.

469 Holloway Road,
LONDON, N. 7



A Century of Experience

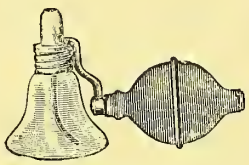


When in need of
QUALITY
Send your orders to

SUTTLEY & SILVERLOCK, LTD

THE WORLD'S LABEL PRINTERS,

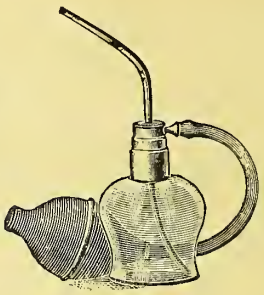
BLACKFRIARS RD., LONDON, S.E. 1



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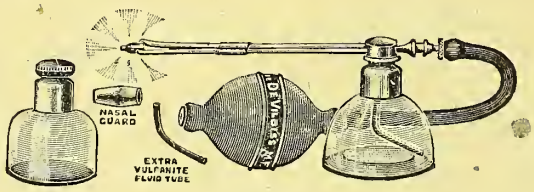
DeVILBISS

Guaranteed



No. 29

ATOMERS & SPRAYS.



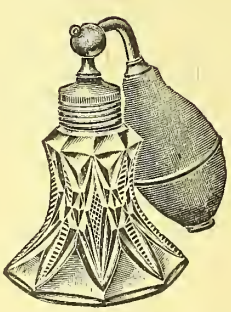
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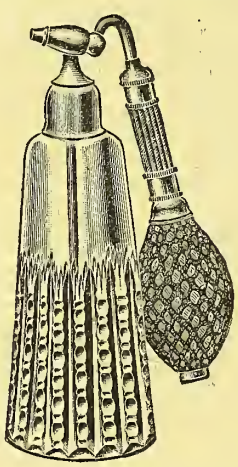
THE DeVILBISS CO., LTD.,

WEST DRAYTON,

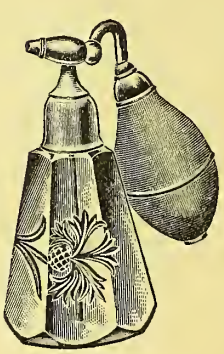
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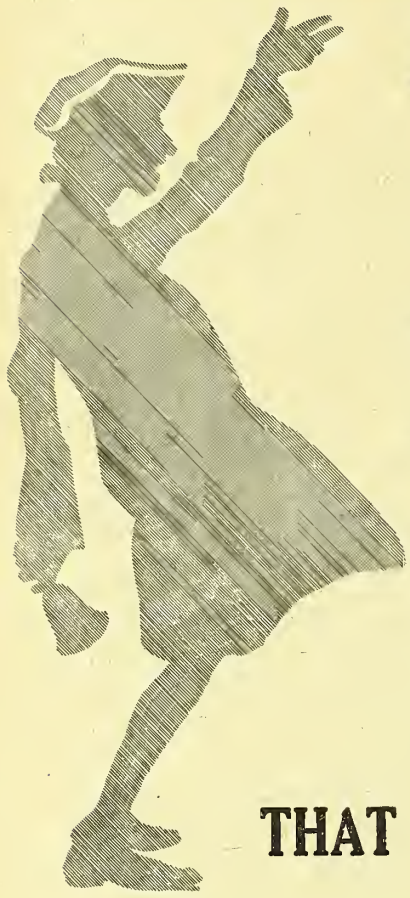
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(240)

THE CHEMIST AND DRUGGIST SUPPLEMENT

42 CANNON ST. LONDON E.C.4

JUNE 25, 1921

This Supplement is inserted in every copy of The Chemist & Druggist.

THE SUPPLY OF SUPPLEMENTS.

The clerical work in connection with the posting of spare copies of the Coloured Supplement week by week has increased to such an extent that we have been compelled to reorganise our system of distribution. Our readers will please note, therefore, that, in future, instructions can be accepted for not more than six successive issues of the Supplement at a time, and that in every case

ADDRESSED WRAPPERS STAMPED ONE PENNY

must be sent. Loose stamps will not be accepted.

EARLIER CLOSING FOR PRESS.

Will advertisers please note that until further notice it will be necessary that Advertisements intended for the Supplement must reach us not later than the FIRST POST THURSDAY MORNING.

CHEMISTS' TRANSFERS.

Messrs. ORRIDGE & CO., 56 Ludgate Hill, E.C.

Telephone No: City 2283.

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

1.—WEST-END PHARMACY.—For disposal, various utensils, comprising measures, pill- and cachet-machines, various scales, mortars, and other implements of Pharmacy; must be sold at once.

2.—LONDON (Northern Suburb).—Old-established Business; returns last year £3,250; *net profit* £800; small residence; rent £45; 32 years' lease; practically no opposition; price about £1,600.

3.—LONDON, E.—General Retail and Prescribing Business, with excellent opening for N.H.I. Dispensing; returns, last year, £2,000; *net profit quite* 25%; large double-fronted shop, well fitted and stocked; comfortable residence, bathroom, garden, garage; vendor wishes to dispose of property, for which he requires £2,000; price for business and property, £2,500; mortgage could no doubt be raised.

4.—LONDON, W.—Ready-money Retail, capitally situate in shopping thoroughfare; returns, present rate, between £30 and £40 per week; *gross profit one-third*; rent £35; price £1,200.

5.—MIDLANDS.—Ready money Business, including Wine Licence; returns about £1,500; *net profit* 33⅓%; attractive shop, fitted in mahogany; small residence; rent £40; held on lease with option of renewal; price £600.

6.—HOME COUNTY.—Good-class Retail and Dispensing Business, situate in a favourite residential town, within easy distance of London; returns, under management, about £3,600 per annum, at good prices; well-appointed shop, fully stocked; the Business offers scope for extension under personal supervision.

7.—WEST OF ENGLAND.—Old-established Business, capitally situated; returns exceed £2,000; *net profit* 25%; attractive, well-fitted shop, fully stocked; further details on application.

8.—NORTH-WEST COAST.—Cash Retail Business; established upwards of 50 years; returns last year between £3,000 and £4,000; *gross profit* £1,300; well-fitted shop, fully stocked; seven-roomed house; private entrance; rent £40; held on lease; price £2,150.

9.—MONMOUTHSHIRE.—For immediate disposal, a Shop and Residence, which has been held by a Chemist for 25 years, now deceased; further particulars will be furnished on application.

10.—NORTH WALES.—Old-established Business, well situate in good market town; returns, present rate, about £2,000 per annum; comfortable residence; nice garden; healthy district; price £1,000 cash.

11.—LANCASHIRE.—Cash Retail Business; best position in marketing thoroughfare; steadily increasing; returns £2,000; excellent opening to extend business under qualified management; price for business £850, and for property a further £850, if required.

12.—SOUTH MIDLANDS.—Unopposed Business; very old established; returns £1,200; scope for development; *profits one-third*; comfortable residence; vendor's own property; the whole is for disposal.

13.—ESSEX (Coast).—Old-established Business, Retail and Dispensing; returns between £2,000 and £2,500, increasing; *profits good*; there is a residence, with bathroom, garden; held on lease.

14.—N.W. MAIN LINE.—Wholesale and Retail Business, centrally situate in large manufacturing town; scope for unlimited extension; commodious premises; rent moderate; further details on application.

VALUATIONS FOR STOCKTAKING.

Messrs. O. & Co. desire to emphasize the necessity of a periodical Statement of Account, by which means alone Profit the value of Business, &c., can be determined. Involving as this does the labour of Stocktaking and Valuation, it is often omitted and eventually becomes the cause of confusion and loss.

Messrs. O. & Co. are prepared to undertake these essential duties and make Special Terms for such services.

ORRIDGE & CO., 56 LUDGATE HILL, LONDON, E.C.

BERDOE & FISH

VALUERS & TRANSFER AGENTS

35 Jewry Street, Fenchurch Street, E.C.3.

Telephone: 1809 CENTRAL.

No Charge to Purchasers.

LONDON, S.W.—Main road position. Good middle-class cash retail, opening for photo and optics. Returns £30 to £35 weekly, entirely under manager; plenty of scope; low rent. Price for quick sale £750; worth attention.

WANTED TO PURCHASE.

BERDOE & FISH are anxiously seeking, on behalf of applicants, good sound businesses throughout England and Wales, and will be glad to hear from owners wishing to sell, or to advise those contemplating selling.

STOCKTAKING VALUATIONS.

We are now booking dates for July and August, and invite early applications for our special terms.

ESTABLISHED 1870.

The Association of Manufacturing Chemists

— LIMITED —

Head Offices—26 28 Kimberley House, Holborn Viaduct, London, E.C.1

(and at 2 Bixteth Street, Liverpool.

PARENT S. BOOTH, *Accountant & Valuer.*

PHONE: CITY 6942.

Stocktaking and Valuations for all purposes undertaken upon Reasonable Terms.

1.—CITY.—Good-class Cash Business; returns £37 per week; excellent profits; rent £80 per annum; old-established look-up shop; good reasons for disposal; part purchase price can remain.

2.—EPSOM, HIGH STREET.—Recently established good-class Family Retail, Dispensing, and Photo Business; returns £1,500 per annum; plenty of scope for increase; no reasonable offer refused.

3.—YORK.—Retail, General, and Dispensing Business, having the sole monopoly of a population of 6,000; excellent house accommodation; returns between £30 and £40 per week, mainly from sale of drugs; similar business cannot be commenced within half-a-mile radius; price, including property, £2,500 or near offer.

4.—LONDON, W.—Very old-established high-class Business, with excellent house accommodation, held on long lease, well fitted and in good position; returns £2,000, which can easily be increased. Fullest particulars on application.

5.—MANUFACTURING CHEMIST'S BUSINESS for Sale, situate near London; excellent factory accommodation; held on 20 years' lease at £50 per annum; offer invited.

Having on our registers numerous cash buyers for businesses from £500 to £2,000 or more, we should be glad to hear from intending vendors, with particulars of the Business for disposal. We can guarantee a prompt and satisfactory sale, and make no charge whatever unless purchaser is introduced by us.

ERNEST J. GEORGE

EXPERT CHEMISTS' VALUER, STOCK-TAKER AND TRANSFER AGENT

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WM. ROOKE ROBERTS, M.P.S., F.S.M.C.,
174 Victoria Street, S.W. 1. Tel.: Victoria 27.

Valuers for Purchase, Sale, Probate, Income Tax, Balance Sheet, &c.

Recommended by The British Drug Houses, Ltd., Messrs. Meggeson, Ltd., Messrs. Barclay & Sons, Ltd., and many other leading Wholesale Houses. Valuers to the Association of Manufacturing Chemists.

CHARLES C. MARSDEN

Valuer, Transfer Agent & Stocktaker,

44 Sholebroke View, Chapeltown Road, Leeds.

Stocktaking Valuation. Special Terms.

All Valuations have the personal attention of C. C. Marsden.

THOS. TOMLINSON & SON

CHEMISTS' VALUERS, TRANSFER AGENTS, AND EXPERT STOCKTAKERS,

45a MARKET STREET, MANCHESTER.

ESTABLISHED OVER HALF A CENTURY.

Telegraphic Address: "Tomlom."

AGENCIES.

6s. for 30 words or less; 6d. for every additional 10 words or less, prepaid.

The Advertiser may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

AGENT required for Scotland, with good connection Retail Chemists, etc.; sale of Perfumery, Toilet Goods; commission only; present connection handed over; also Agent on commission for Wholesale houses, Glasgow. Particulars and references to 45 17B, Office of this Paper.

AGENTS, or thoroughly experienced Salesmen, required by large Chemical Colour Manufacturer; works in the Midlands, with London offices; liberal salary, commission; expenses paid. Write Z.E. 775, c/o Deacons, Leadenhall Street, London.

AGENTS and Travellers wanted; Laboratory Glassware and Scientific Glass Instruments, etc. Full particulars and experience to 23 13N, Office of this Paper.

MANUFACTURERS.—Do you wish to place your products on the Canadian market? Two live Salesmen, with a good connection, are open to take any reliable Drug-store line on a commission or Agency basis. Correspondence solicited through 100 37, Office of this Paper.

TO Continental Firms.—A Colonial Chemist, now resident in England, wishes to act as Manufacturer's Representative, Drugs, Chemicals, Sundries, Fancy Goods; hopes to visit Continent shortly; London references. Address "South Africa" 133/2, Office of this Paper.

BUSINESSES FOR DISPOSAL.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid.

The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

SOUTH COAST.—Chemist's Business, Cash Retail; well stocked; established over 50 years in shopping part, main road of prosperous Naval and Military town; well-fitted shop; modern front; rent £50; long lease; genuine. Further details on application to 126,38, Office of this Paper.

CASH Retail Business for immediate disposal, in West London suburb; returns exceed £1,500 per annum under management; house sublet at profit rental; good lease; scope for increase; price £850 or offer. 135,17, Office of this Paper.

DENTAL Materials Depot, in good position in large provincial town; good connection; low rent; returns increasing, capable of great development; good opportunity for one or two Chemists, experienced in Dentistry and Dental requirements; about £4,000 required, or Partnership entertained. "Arco" (132 15), Office of this Paper.

UNIQUE opportunity.—Genuine old-established City Business. West of England; excellent profits; good living accommodation; long lease; for quick transfer, accept £2,100; good reason for disposal; particulars in return for bankers' reference. Apply 134/9, Office of this Paper.

BUSINESSES WANTED.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid.

The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

CHEMIST requires genuine Retail Business, North of England; country market town preferred; returns £2,500 or over; good living accommodation; can take over at once or wait vendor's convenience; must be in a good position, with scope for increase. Replies in strict confidence to 133 39, Office of this Paper.

CHEMIST desires to purchase a small Business; neglected one not objected to; living accommodation essential. Please send full particulars to "Senna" (134/32), Office of this Paper.

GENUINE Business required, yielding not less than £500 a year net profit; Southern Counties or South Midlands preferred; good housing accommodation essential; please state price, length of lease, rent, rates, accommodation, etc.; replies treated in strict confidence; banker's reference given. Apply 134/15, Office of this Paper.

MODERN Cash Retail, in good-class outer suburb or Home Counties; advertiser will pay £600 down, with balance and interest at early agreed date; or Partnership or Managership with succession entertained; is keen man with ideas for increasing business. "Ph.C.," (136/15), Office of this Paper.

MR. J. OLIVER, formerly of Devizes, Wilts, is desirous of purchasing a good Middle-class Business in Southern or South-Eastern Counties; present turnover about £2,000; or would entertain partnership; Optical and Dental experience; cash terms; immediate, or can wait. Please address J. Oliver, 3 Market Place, Blandford, Dorset.

PHARMACIST desires to purchase genuine Business; Liverpool or Manchester districts preferred, but not essential; turnover £30 to £50 weekly; full particulars treated in confidence; Partnership, or Managership with view to succession also entertained. Apply "M.P.S.," 191a Upper Parliament Street, Liverpool.

WANTED, small or neglected unopposed Retail and Prescribing Business, or Mixed Drug Stores, without N.H. Dispensing; South Coast preferred, but not so essential as a sure living and snug house accommodation; capital available and early transfer desired. Fullest particulars to N., 12 Woodville Road, Torquay.

WANTED (immediately), by advertiser (retired Chemist), who is disengaged, with cash ready, good-class Chemist's Business, returning from £2,000 to £3,000 per annum, in Southern Counties; country, coast, or suburban districts; satisfactory references given. Mr. Keeble, Balconies, Liss, Hampshire.

PARTNERSHIPS.

MANUFACTURING concern, well established, with sound reputation, engaged in the production of Flavouring Essences, Tinctures, Ottos, Food Colourings, etc., owing to growth of business, desires the services of a gentleman with knowledge of Manufacture of above; one who could take charge of small laboratory, control Manufacture, and acquire financial interest, £2,000-£3,000; exceptional opportunity for smart man of precise methods, ability, and ambition; full details in first instance treated with strict confidence. Replies, 134/39, Office of this Paper.

PRICE £5,000.—For Sale, half-share in Chemist's Druggist's and Photo Business; the oldest-established firm of its kind in one of the foremost British Colonies; doing a large and increasing turnover, showing excellent profits; only principals dealt with; all inquiries to be accompanied with bank guarantee of bona fides. Apply in first instance to P.C.B. 3/19, Office of this Paper.

TO LET.

SHOP (small), High Street, Wandsworth, amongst multiple traders; fine opening. Burdwood, 109 Baker Street, W.

TO Registered Dentists.—To be Let, on lease, the handsome upper part over Pharmaceutical Chemist's in the Broadway, Thorpe Bay, Essex, between Southend and Shoeburyness; one hour from town; excellent opening for superior practice. For terms apply "Ph.C.," 1 Holland Road, Westcliff-on-Sea, Essex.

FOR SALE.

SURPLUS Stock.—2 gross 4-oz. Health Salt, Dr. Sands and Headliver Co., Conway, 3s. 3d. doz.; 2 gross 2d. Melrose Tablets, 11s. 6d. gross; 21 doz. 4½d. Soothers, Curston, Gerrard, 1s. 6d. doz.; 12 doz. 2½d. Soothers, St. Dalmas, 1s. doz.; 3 doz. 2½-oz. Toilet Paraffin, Curston, Gerrard, 4s. 6d. doz.; 8 doz. 1s. 8d. Icilma Cream, 8s. 6d. doz.; 9 doz. 6d. Papier Purifié, various tints, 3s. doz.; 8 doz. 2d. Ucal Skin Tablets, 9d. doz.; 2 doz. 1s. 3d. Cupal Sore-Throat Tablets, 8s. doz.; 9 doz. 9d. Gibbs' Cold Cream Shaving Sticks, 4s. 6d. doz.; 20 bottles 6½d. Cupal Rubbing Oil, 3s doz.; 28 packets 5s. Pylima Pile Powders, 24s. doz.; 17 bottles Cupal Kill Pain Liniment, 7s. 6d. doz.; 35 1s. Ucal Shaving Sticks, 6s. doz.; 22 7½d. Tucalia Dental Cream, 3s. 6d. doz.; 10½ doz. 1s. Euthymol Service Tooth Paste, 4s. doz.; 2 doz. ½d. Corn Salve, 1s. 6d. doz.; 9 packets 12's Fairchild's Peptonising Powders, 12s. 6d. doz.; condition of all articles as new; cash with order. The Pharmacy, Brownhills, near Walsall.

SITUATIONS OPEN.

RETAIL.

6s. for 40 words or less; 6d. for every additional 10 words or less prepaid.

The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

BECKENHAM.—Junior Assistant required for Family Retail business; must be a neat and good worker. State age, experience, and salary required to 136/10, Office of this Paper.

BRIGHTON.—Wanted at once, unqualified Junior, with good all-round experience and Photographic knowledge; state wages required; hours 9 till 8, 9 Saturdays, half-day per week; alternate Sundays, 6 to 8 only.—Hewett, 82 King's Road, Brighton.

CARDIFF.—W. T. Hicks & Co. require qualified, experienced Manager; high-class Retail, Dispensing, and Photographic business. Apply, with photo, full particulars of experience, etc., when disengaged, and salary required, to Messrs. Gilling & Goodfellow, High Street Arcade Chambers, Cardiff.

HUDDERSFIELD.—R. C. Welshaw has a vacancy (at once) for a Junior Assistant. State age, salary required, and give references from last employer, to 4 Market Place, Huddersfield.

LONDON, S.W.—Qualified Manager; gentlemanly, active, and obliging; good experience and reliable; abstainer preferred, with undeniable references, for good-class busy Cash Retail and N.H.I.; to one with capital opportunity to follow on would be given; S.W. Apply 135/40, Office of this Paper.—[Will advertiser kindly forward address to this office?]

LONDON, W. 1.—Junior Assistant; unqualified; particulars of salary required, experience, etc., by letter only. A. C., 78 Leverton Street, N.W. 5.

MALVERN (at once).—Unqualified Assistant for season, used to good-class Retail; Photographic experience essential. Please give experience, salary required (outdoors), Clarke, Central Pharmacy, Malvern.

MIDLANDS.—An Assistant, about 24 years of age, required for three weeks, about the beginning of next month; please send references and state salary required. Apply 135/26, Office of this Paper.

SOUTH COAST.—Early in August; two good Assistants; one as Dispenser, one as Counterman; well up in high-class trade; qualification unnecessary. 134/40, Office of this Paper.

SOUTH DEVON COAST.—Assistant wanted for good-class Dispensing and Retail business. Apply, with full particulars of experience and salary required (outdoors), 134/22, Office of this Paper.

A GENTLEMANLY Assistant wanted for North London; good Counterman essential, also thorough knowledge of Photography. Please state age and usual particulars in first letter to 136/32, Office of this Paper.

ASSISTANT, accustomed to Quick Retail, Dispensing, and N.H.I. business. State full particulars of experience, when disengaged, and salary expected, to H. Critchlow, Pharmacist, 161 Monument Road, Edgbaston, Birmingham.

ASSISTANT (outdoors) for South London; good Photographic Salesman and Window-dresser. In reply, please give age, salary, and recent references, to 136/11, Office of this Paper.

DISPENSER.—Assistant, male or female, Wanted for the Newcastle Dispensary; must be fully qualified. Applications, with references, stating salary required, to be sent to the Hon. Secretary, Joseph Carr, 26 Mosley Street, Newcastle-on-Tyne, on or before the 30th June, 1921.

DRUGS.—Dispenser required for temporary engagement in West-End Stores to end of September. P.C.B. 3/9, Office of this Paper.

IMMEDIATELY.—Assistant, male, about 24, for season, to October, in good Dispensing business (outdoors). Particulars, height, age, last permanent engagement, photo (if possible), W. M. Rosser, Baily & Co., Chemists, Margate.

IMPROVER, or youth just finished apprenticeship, required by July 14th (indoors). Apply, stating age, experience, and salary, also send photo if possible, to Mrs. Holme, Market Place, Wallingford-on-Thames.

J. WEARING, Pharmacist, Woking, requires a Junior Assistant; must have good experience in Dispensing and Counter work; state salary required and full particulars (letters not answered in 2 days respectfully declined).

JUNIOR Assistant; some knowledge of Dispensing and Photography essential; state age, experience, and salary required in first letter; no Sunday duty. Tranmer, Chemist, Smethwick.

LOCUM required, qualified lady Dispenser, for 6 weeks from early in August, for Doctor in the Midlands; no panel work. Apply 135/28, Office of this Paper.

LOCUM-TENENS Dispenser wanted for Doctors' practice, three weeks in August; country town, 25 miles from London. Apply 135/35, Office of this Paper.

MANAGER required (July 11th) for small branch; live on premises; Light Retail, Dispensing, and Photographic; good Salesman and Window-dresser; permanency to reliable man. Please state full particulars, age, experience, when disengaged, salary, and references, Bramleys, 87 Holyhead Road, Handsworth, Birmingham.

PARKE'S DRUG STORES, LTD., London, require the services of an unqualified Assistant; applicant should be young, energetic, and reliable Dispenser, good Window-dresser and Salesman, with a knowledge of Photography. Apply 65 Harmood Street, Kentish Town, N.W., any morning between 10 and 12 o'clock.

QUALIFIED Manager for branch; single-handed; Light Retail, Photo. and Dispensing; occasional help given; easy hours and duties light. Apply, stating age, experience, and salary required, to Edwards, Pharmacist, Midsomer Norton, near Bath.

QUALIFIED man wanted for small Pharmacy; good Dispenser and sound knowledge of Photography; must be abstainer; state age, experience, and salary required, references; South Wales town. 133/40, Office of this Paper.

QUALIFIED Assistant wanted, beginning July; mixed country business; healthy locality; Photographic knowledge; outdoors; permanency. Particulars, age, height, references, salary required, with photo, if available (to be returned next day), to W. Young, Chemist, Chapel-en-le-Frith.

QUALIFIED Minor, capable, reliable, able to take full charge; Counter, Dispensing, and Window-dressing. Apply, stating salary and age, experience and references, "Chemist," 77 High Street, Croydon.

QUALIFIED man required at once; applicant must be young, single, and ambitious, good Prescriber, neat and accurate worker; Dental Extractor preferred; state salary (outdoors) and references in first letter, also when at liberty, Arnold A. Dawson, 257 High Street, Ponders End, Middlesex.

REQUIRED (at once), young lady for Toilet Counter; good Saleswoman essential; state salary required. Apply 134/12, Office of this Paper.

REQUIRED (immediately), Lady Assistant, with good Counter and Dispensing knowledge. Apply Goddard & Grieve, Ltd., 465 Finchley Road, N.W. 3.

SMART unqualified Assistant; must have first-class references. Apply, personally or by letter, to Morton's Cash Chemists, 298 Harrow Road, Paddington.

UNQUALIFIED Junior required, early in July, for season; thorough knowledge of Photography essential; pleasant Counterman. State age, salary, and fullest particulars in first letter, Frederick Liner, 156 King Street, Great Yarmouth.

UNQUALIFIED Assistant wanted, about July 11th; good Counterman and Dispenser, and with good knowledge of Photography. Full particulars to Craven, Pharmacist, Grosvenor Road, Ripley, Derbyshire.

WANTED, Assistant (male) for brisk Cash Retail. State usual particulars and salary required to F., 4 Mount Ephraim Lane, Streatham, S.W.

WANTED, qualified Second Assistant for permanency in brisk country business; married, age 25 to 35, with N.H.I. and Stockkeeping experience. Give full particulars and state salary required to W. Smith & Co., Ltd., Chemists, Abingdon, Berks.

WANTED, young lady (19-20), live in, comfortable home, for Light Retail trade; knowledge of Photographic work preferred. State salary and usual particulars to Sellers, Chemist, Enfield Lock, N.

WANTED, fully qualified man to manage new and up-to-date Chemist and Druggist Department. Apply, stating qualification, experience, age, and wages required, to the Committee, Co-operative Society, Bolton. Applications to be in not later than Saturday, July 2nd, endorsed "Chemist."

WHOLESALE.

8s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

EAST RIDING of Yorkshire.—Drug Traveller wanted. 1/30A, Office of this Paper.

COMMISSION Men, covering Wales and other districts, are offered 12½% by Slinn, Mitchell & Co., Manufacturing Chemists, Rhyl, for pushing sound, saleable lines; men with good connections wanted. Write, giving references.

INSPECTOR of Advertising Material.—A well-educated, smart, convincing young man required, able to induce trade, to exhibit show material, and get window-displays on behalf of nationally advertised Specialities to Chemists; the position calls for resource, tact, utmost reliability, and hard work, with unlimited scope to the right type of man. Address in first instance, giving age, idea of salary, and particulars of past employment, to "Phormus" (32/73), Office of this Paper.

RETURNING PHOTOS, &c.

Advertisers in this section who receive portraits and copies of testimonials from applicants with a stamped addressed envelope for reply are reminded that the undue retention of these often means a hardship to the sender. All personal documents should be returned as promptly as possible after perusal.

REPRESENTATIVE, calling on Chemists, with connection, to sell several lines in Crystals, chiefly Lithia Medicated Crystals in 10-oz. packets and in bulk; good commission and small allowance for expenses. Apply 134/29, Office of this Paper.

REPRESENTATIVES wanted, London and country, for side-lines, calling Chemists; commission or own account. Apply Voltzi & Kissa, 45 Cleveland Street, W. 1.

TOILET-SOAP Maker, all-round hand, required; give full particulars of experience, wages required, etc. Apply 135/39, Office of this Paper.

WANTED by London Manufacturers of Toilet Preparations, a man to carry on the Manufacture of present Proprietary Lines, improve and extend them; need not be qualified, provided he has had practical experience and is a good Perfumer; splendid opportunity for one who has been acting as "right-hand man," and knows how to handle staff. Full particulars and salary required to 16/8K, Office of this Paper.

WANTED, near Birmingham, Assistant Tablet Maker, with knowledge of Granulating, Compressing, and Coating. State particulars, experience, age, salary, etc., "Statim" (32/72), Office of this Paper.

SITUATIONS OPEN.

(Colonial, Indian and Foreign.)

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

The Advertiser may, if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

PARIS.—Assistant; knowledge of French and Continental experience; photo, if possible (to be returned), age, height, references, salary (outdoors). Roberts, 5 Rue de la Paix, Paris.

SOUTH AFRICA.—A Wet and Dry Counterman required for the Wholesale in a coast town; must be young and unmarried; three years' agreement; passage paid out. Please apply, by letter only, L., 14 Lafone Street, London, S.E. 1.

SHANGHAI.—Assistant, British-born, age about 26, with Minor qualification, for high-class Dispensing and Photographic business; 4 years' agreement; passage paid; salary 350 Mexican dollars per month, increasing by annual instalments to 400 dollars per month. Apply, letter only, to H. L. S., Dakin Bros., Ltd., 82 Middlesex Street, E. 1.

SITUATIONS WANTED.

[HOME.]

RETAIL.

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid.

The Advertiser may if preferred, have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

A.A.A.—LOCUM-TENENS (27); free mid-August onwards. My references are—any leading Wholesale house and numerous Pharmacist clients; terms reasonable; anywhere. "M.P.S.," 11 Kyrle Road, S.W. 11.

A.A.A.—COMPETENT Pharmacist (33); qualified 12 years; disengaged; good experience, references; any capacity; moderate remuneration. "C.," 14 Alpe Street, Ipswich.

ADVERTISER, M.P.S., desires residential Managership; South of England Coast preferred; large and varied high-class experience; conscientious; good business builder; married; wife sound knowledge of business; permanency and future interest preferred. "Optics" (135/13), Office of this Paper.

ADVERTISER seeks situation as Junior, where there is good Dispensing; five years' experience and good references. P. Reding, Wainfleet, Lincs.

AN experienced Dispenser, Hall (lady) seeks post; experienced Hospital, Institution, and Surgery; excellent testimonials; London or near. 134/28, Office of this Paper.

AS Assistant, Sight-Testing (25); three years' experience; thorough knowledge of all Lenses, also of Telescope and Field Glasses. M.L. 74049, Office of this Paper.

AS Locum; qualified, experienced, reliable; July 4-17; Lancs or Yorks preferred. Stansfield, c/o Brown, Chemist, Scarborough.

AS Locum-tenens; highest recommendations; wide experience; free until July 21st. Brown, 66 Fore Street, Brixham, Devon.

ASSISTANT, unqualified; 28; good experience; willing to go abroad. M.L. 15705, Office of this Paper.

ASSISTANT, unqualified, aged 29; 10 years' experience in good-class Retail and Dispensing; Locum or permanency. "Locum," c/o W. C. Bennett, M.P.S., 37 Fore Street, Totnes, South Devon.

ASSISTANT, unqualified (40), single; Counter, Dispensing, and Photography; disengaged shortly. "Velox," 190 Canterbury Street, Gillingham, Kent.

ASSISTANT, unqualified, references, requires berth, London or district; free third week July. "Fluorine," 104 Clapham Road, London.

ASSISTANT, unqualified, desires part- or whole-time berth; Counter and Dispensing. V. R., 30 Gore Road, Hackney, E. 9.

ASSISTANT.—Situation required by young lady with 4 years' experience Counter, Window-dressing, Stock, etc.; no Dispensing; good references. Miss Chapman, 320 Roman Road, Bow, E.

ASSISTANT, unqualified, 26, married (no family), seeks post, large town or city; excellent experience and references; knowledge Photography; disengaged July. Apply Alderson, 36 Rosebery Avenue, Deckham, Gateshead.

ASSISTANT, unqualified; Dispensing, Counter, and Window dressing; knowledge Photographics; good references; moderate salary. "S. O. S." (136/1), Office of this Paper.

ASSISTANT, unqualified; smart Salesman and Window-dresser; Drugs, Surgical. Sundries, Perfumery, Toilet, Photographic. "Salol," 37 Brunswick Road, N. 15.

ASSISTANT, young lady; Retail experience; Dispenser; good Saleswoman; Kent or adjoining counties; disengaged. Apply 135/12, Office of this Paper.

CHEMIST'S Assistant (33); married; 12 years' experience as Apprentice and Assistant; some Surgical knowledge; can drive motor. M.L. 72718, Office of this Paper.

COMPETENT, reliable Locum, disengaged till July 3rd and during August; terms six guineas weekly. "Aspirin," 57 Brown Road, Walthamstow, Essex.

CONSCIENTIOUS, trustworthy, experienced Pharmacist, well recommended, seeks permanency in good-class business; single; abstainer. "H.," 145 Waterloo Road, Wolverhampton.

DISENGAGED; Locum; thoroughly competent; experienced town or country; well recommended; very reasonable terms. "Reliable," 239 Camberwell New Road, S.E. 5.

DISENGAGED for 14 days; Locum; terms £5 10s. p.w. Mr. Beding, c/o Mr. Bartlet, Chemist, 345 Woolwich Road, Charlton.

DISPENSER (26); 11 years' good-class varied experience, also Counter- and Photography. Please state full particulars, hours, etc. (provincial), Haigh, 25 Stafford Parade, Halifax.

DISPENSER (Hall), lady, desires post; experienced, keen; good testimonials; urgent; Locum, permanent. "N. C.," 39 Kempshot Road, Streatham Common, S.W. 16.

DISPENSER or Locum; first-class West-End and Hospital experience; disengaged. "Dispenser," 2 Dove Street, Lowestoft.

DISPENSER (Hall), lady, desires post in East London; Hospital experience. Apply D. Woolley, 66 Ladysmith Avenue, Seven Kings.

DISPENSER; 20; served 3½ years' apprenticeship before joining Army; taking final examinations when 21. M.L. 76534, Office of this Paper.

DISPENSER, lady (Hall) seeks post; 10 years' Retail and Dispensing experience; country or seaside preferred. Apply 136/7, Office of this Paper.

EVENING work required by experienced Dispenser and Bacteriological Laboratory Assistant, also efficient Accountant; all evenings free. Apply to Bull, 57 Glenwood Road, Catford Hill, S.E. 6.

EX-SERVICE Man desires situation as Dispenser, Pharmacist, X-Ray Operator, Apothecary, Teacher in Chemistry or Botany or Allied Subjects; 29; married; Surgeon-Sub-Lieut. R.N.V.R.; educated University College, Dublin; fluent Latin and French. M.L. 2856/21, Office of this Paper.

JUNIOR, unqualified; good all-round experience, including Photography; good references; Midlands or East Coast preferred. Apply 134/26, Office of this Paper.

LADY Dispenser (Hall qualification), 4 years' experience, requires post with Doctor, Chemist, or Institution. Write "C. H." (125/33), Office of this Paper.

LOCUM, qualified (38), having just sold business, open for engagements. Apply Chemist, 94 Harberton Road, Highgate, N.

LOCUM or permanent management, in or round London; S.E. or S.W. or Clacton preferred; references of recent work. Apply 135/5, Office of this Paper.

LOCUM; experienced all branches; good references; disengaged last week July and first two weeks August. W. E. F., 108 Mansfield Road, Nottingham.

LOCUM, qualified, abstainer, disengaged till July 2nd; London or suburbs. S. S., c/o Mr. Foreman, 120 Barrow Road, Streatham Common, S.W.

LOCUM or permanency (39); reliable and rapid Dispenser; qualified N.H.I.; used quick Counter trade; good Manager; excellent references; £3 10s.; disengaged June 27th. Coles, 30 Milton Road, Wealdstone, Harrow.

LOCUM or permanency; 38; Retail and Dispensing; disengaged; references; abstainer. Turner, 44 Macfarlane Road, Shepherd's Bush, W. 12.

LOCUM or otherwise; thoroughly experienced Dispensing and Retail; tall, active, and energetic. "Qualified," 55 Beauchamp Road, Clapham Junction.

LOCUM; 30 years' wide experience; disengaged two weeks from July 25th; qualified M. Smith, c/o Desmond's, Post Office, Plaistow Road, Plaistow, London, E.

LOCUM, qualified; thoroughly experienced; disengaged now till July 9th, also from August 1st to 20th; well recommended, reliable. "Idem," 44 Gresham Road, Brixton, S.W.

LOCUM or permanent; Hall qualification; lady Dispenser; 5 years' practical experience; disengaged. "Student-Associate," 22 Murray Road, Rugby.

LOCUM, disengaged; reliable. Apply "M.P.S.," Messrs. Southall Bros. & Barclay, Lower Priory, Birmingham.

LOCUM; qualified Dispenser; wide experience; abstainer; excellent references; disengaged. "Palatinoid," 82 Dahomey Road, Streatham, S.W. 16.

LOCUM; seaside or country; fortnight from July 2nd; unqualified, competent; used to single-handed, with daughter. R., 10 Foreign Street, S.E. 5.

LOCUM or permanency; Pharmacist; 44; wide experience; good Salesman; reasonable terms; disengaged. "Pharmacist," 152 Northfield Avenue, Ealing, W.

MANAGER, Senior, Locum; 49; Major; disengaged; good references; experienced, quick, and accurate Dispenser; good Counterman. Anthony, 54 Burlington Road, Bayswater, W. 2.

MANAGER (Branch or Drug Store); experienced as such; last situation 6 years; age 41; married; permanency; Apoth. Hall qualification; excellent reference; moderate salary. Apply 135/10, Office of this Paper.

NOTTINGHAM or Midlands.—Post required, permanent or locum; Dispensing and Counter; disengaged shortly. Taylor, 32 Dornock Avenue, Winchester Street, Sherwood, Notts.

PART or whole time; West-End experience Dispensing, Counter, Prescribing; reliable, smart. "Locum," 122 Scott-Ellis Gardens, N.W. 8.

PART-TIME engagement as Dispenser, quaified; good experience; permanency desired. "J. H.," 8 Manor House Street, Peterborough.

QUALIFIED (Major), elderly, seeks part-time work in London. Wright, 46 Hardwicke Road, Palmers Green.

QUALIFIED (27) desires situation; good all-round experience; excellent references; Midlands preferred, but not essential. 133/38, Office of this Paper.

QUALIFIED; Manager or Assistant; 15 years' experience; excellent references; interview welcomed. "Practipedist," 1 Fairlawn, Manor Lane, Sutton.

QUALIFIED; age 26; tall; thoroughly experienced; knowledge of Photography; excellent references; shortly disengaged. Apply 107/38, Office of this Paper.

SCOTLAND or N. ENGLAND.—Qualified gentleman requires permanency; Manager or Senior in good Dispensing business; young; single; good address; best experience; undeniable references; abstainer. Please state terms and when required, "Mac" (133/3), Office of this Paper.

SENIOR Assistant; unqualified; long, varied experience; entire charge if required. Morris, 43 Adolphus Street, New Cross, S.E.

SMART, experienced Pharmacist Manager requires locum or permanency in town or country; up-to-date in modern business methods; disengaged; married. "Tristan," 26 Fox Hill, S.E. 19.

TEMPORARY or locum; July, August, September; first-class experience; disengaged. Cogar, 8 Shakespeare Avenue, Bath.

TEMPORARY, Locum, season; 30 years' City, West-End, and Hospital experience; *forte*, Dispensing, Prescribing, Manufacture. "Edgcumbe," 65 Pevensey Road, Eastbourne.

UNQUALIFIED; Assistant or Manager; 20 years' experience in all branches, seeks change; smart Window-dresser, Counterman, and Dispenser; quick Cash Retail or Wholesale; Midlands preferred, but not essential. 133/10, Office of this Paper.

UNQUALIFIED; 10 years Retail, Dispensing, and Photographies; at liberty July 8th. "D.," 19 Crescent Grove, Clapham, S.W. 4.

UNQUALIFIED Assistant; 5½ years' experience good-class Retail and Dispensing; age 25; tall; Lancs preferred; at liberty about July 18th. Apply 134/36, Office of this Paper.

UNTIL mid-August, disengaged, Locum; varied experiences; age 46; Major. Chemist, Brooklands, Forest Moor, Knaresborough, Yorks.

WHOLESALE.

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid.

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A GENTLEMAN of personality will shortly be disengaged; every Chemist and Store in South and West Wales has been an open account for many years; the ground is worked regularly by car; a firm or firms of first-class standing desiring representation by a Traveller with a record will kindly communicate with 133/1, Office of this Paper.

ACTIVE young man (25), thoroughly experienced in Home and Export trade, seeks Clerical re-engagement; business-like and capable of working on own initiative. Apply 133/11, Office of this Paper.

ADVERTISING.—Gentleman, with own offices in London, is open to devote a portion of his time to one reliable firm requiring advertising assistance; the service would comprise the writing of all copy, preparing original ideas and selling schemes, planning and preparing complete lay-outs for Press Advertising and Advertising Literature, and, by working in close co-operation with the firm in question, generally controlling the advertising on economical and progressive lines; personal interview; references exchanged; letters will be treated in strict confidence. Apply 45/16B, Office of this Paper.

ASSISTANT Manager, for Wholesale Optician or Lens Manufacturer; 31; served apprenticeship with Wholesale Opticians; experience as Prescription Assistant, also as Assistant Manager of Lens Company and Optical Works; willing to go abroad. M.L. 355/21, Office of this Paper.

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CHEMICAL Trade.—Situation wanted; fluent French; 9 months' experience as Assayer, Gold, Metals, etc.; good general grounding in the theory of organic chemistry. M.L. 89060, Office of this Paper.

CHEMIST'S Assistant, Scotch, wishes to represent Sundries house, anywhere; plenty energy; age 28 years; height 5 ft. 8 in. Apply 135/9, Office of this Paper.

CLERICAL work of any description wanted in spare time; thoroughly experienced; quick and accurate at figures, etc. "Energy" (135/33), Office of this Paper.

HERBAL, Pharmaceutical, and Toilet Preparations.—Advertiser, experienced in manufacture, able to control, age 35, open for engagement at once. H., 23 Ordell Road, Bow, London, E. 3.

PART-TIME Representation.—Advertiser is open for part-time services with Wholesale firm; Heavy, Fine, or Drugs; 20 years' experience; first-class references; whole-time engagement entertained. Reply "Statim" (P.C.B. 3/30), Office of this Paper.

POSITION as Representative desired by advertiser, with extensive connection; several years present ground; whole or part representation. "Progressive" (135/8), Office of this Paper.

REPRESENTATIVE, S.E. Counties.—Pharmacist (35) is desirous of representing first-class house; wide and comprehensive knowledge of requirements of medical men and the Retail trade. "Mutual" (135/37), Office of this Paper.

SALESMAN, Manager, or Buyer in the Chemical trade; 37; single; 15 years' experience as Junior to Departmental Manager, 1 year as Buyer and Salesman to Chemical Merchants, also 2 years' experience as Manager of Chemical Department for General Merchants. M.L. 2915/21, Office of this Paper.

STUDENT-ASSOCIATE, in charge of small Wholesale Chemists' Department, wants similar post; Southampton preferred. Clark, 8 Ivy Street, Salisbury.

TRAVELLER or Salesman; 34; ex-Service man; married; long experience as Salesman, Chemists' Sundries; willing to go abroad. M.L. 4286, Office of this Paper.

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ADVERTISER, with twenty years' experience and connection with Chemists, Hospitals, Native States, etc., desires to get in touch with actual manufacturers of Heavy and Fine Chemicals, Galenicals, and Spirituous Preparations with a view to representation; permanent offices in all chief towns; high credentials; all communications treated with strict confidence. Address P.C.B. 2/5, Office of this Paper.

We desire particularly to draw the attention of Colonial and Foreign Subscribers to the fact that in cases where they require partners, agents or assistants, or wish to sell their businesses, an Advertisement in this Supplement, placed in every copy of "The Chemist and Druggist," should be the readiest means of helping them to attain their object. The tariff for such announcements is given under the appropriate headings in the Supplement. Instructions and remittances can be sent to us direct or through the advertisers' correspondents in this country.

MISCELLANEOUS.

10s. for 60 words; 1s. for every additional 10 words or less.

SECOND-HAND CHEMISTS' FITTINGS.—We have an exceptionally fine selection of these in all sizes; prices are right, and goods are in first-class condition; we shall be pleased to supply particulars and prices. Call or write, RUDDUCK & CO., 262 Old Street, London, E.C. 1.

SHOP FITTINGS.—Drug Fitting, glass-fronted Counter, Wall Cases, and Dispensary Screens for immediate delivery; lowest prices consistent with high-class work. H. Mills & Sons, Shopfitters, 163-165 Old Street, E.C. 1.

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BOTTOM of Window (about 13 square feet) of shop in middle-class suburb of a city, is available for frequently repeated displays of dummies and showcards (former preferred) of P.A.T.A. articles; payment not demanded, but will not promise to buy direct. 134/2, Office of this Paper.

FOR Sale, cheap, two 100-gallon Galvanised Iron Oil Tanks, with loose covers; H.B.W.G.; 27″ diameter, 48″ high, Tap-hole at bottom; also one 120 Galvanised Iron Spirit Tank, closed dome top, 47″ high, ¾-in Tap-hole at bottom; all good as new. Apply The Ilex Supply Co., Ltd., 252b Gray's Inn Road, W.C.

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OPTICAL Trial Case, in oak; almost new; lined with satin; 15 by 11 by 2¾; what offers? Stafford, Chemist, Tuam.

FIELD GLASSES, £7 7s. set of Binoculars, 10-lens magnification, very powerful, in solid leather case; accept 42s.; approval willingly. "F. G.," 48 Maida Vale, London.

WANTED.

ENOLIN CARTONS; any number; 3d. each given. Jack, 34 Haddington Place, Edinburgh.

KODAKS, second-hand or shop-soiled, also out-of-date Films. Picton's Pharmacy, Margate.

PHARMACEUTICAL Books wanted; cash offers on receipt. Gower, Bookseller, 41 Voltaire Road, Clapham.

QUININE, Bismuth Salts, Iodides; any quantities. Lowest cash price to Edmonds, Chemist, 153 Colwyn Road, Northampton.

RADIUM SALT pure of Residues, old Applicators, etc. Apply Harrison Glew, Radium Laboratories, 156 Clapham Road, S.W. 9.

GARDNER'S "Rapid" Sifting and Mixing Machines, for powders. State size and style of machine, and very lowest price, to 13/41, Office of this Paper.

GLASS Ticket Stands, 2¾-in. base, 4 in. high (formerly supplied by Maws); 36s. dozen offered, carriage forward; Single Stands welcome. R. Beck, Chemist, Patricroft, Manchester.

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